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W. D. POTTER

Potter

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
Washington, D. C.
H. H. Bennett, Chief

W. D. POTTER

HYDROLOGIC STUDIES

COMPILATION OF
RAINFALL AND RUN-OFF FROM THE WATERSHEDS
OF THE MISSOURI VALLEY LOESS REGION
CONSERVATION EXPERIMENT STATION
CLARINDA, IOWA

1939

by

L. H. Schoenleber, Assistant Agricultural Engineer
Clarinda, Iowa

Prepared under the direction of
C. E. Ramser, Chief, Hydrologic Division

Office of Research
November, 1940

(See SCS-TP-31 for description of watersheds)

COMMITTEE RECORDS

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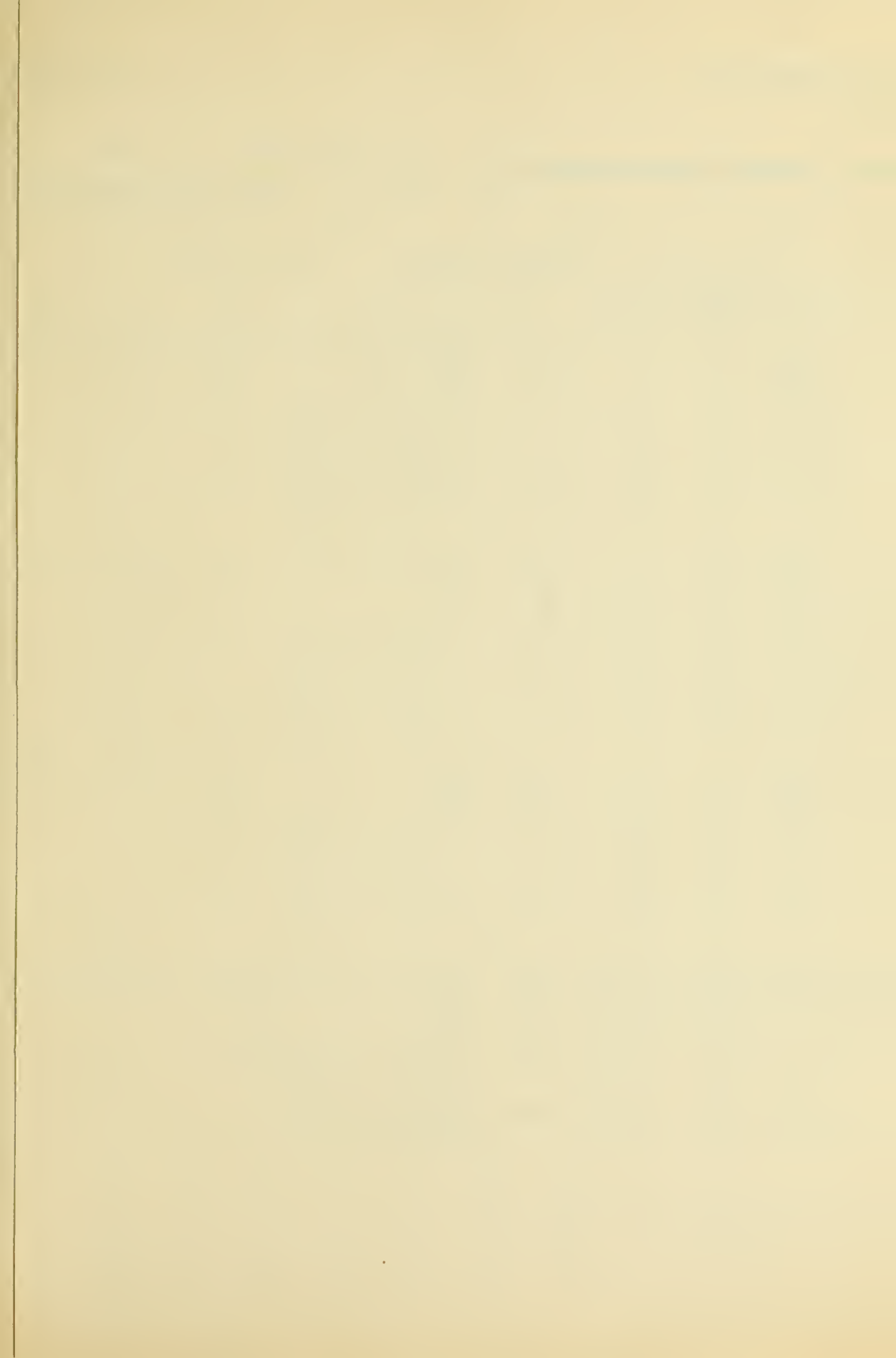
PROJECT Clarinda, Iowa

SHEET 1 OF 8 SHEETS

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

U. S. GOVERNMENT PRINTING OFFICE S-12268

U. S. GOVERNMENT PRINTING OFFICE 16-12355																			
DATE	WATERSHED		RAINFALL							TEMPERATURE (degrees F.)		RUN-OFF					RAINFALL MINUS RUN-OFF (inches)	SILT LOSS (tons per acre)	CONDITION OF WATERSHED
	Number	Area (acres)	Gage No.	Began (hour)	Duration (minutes)	Amount (inches)	MAXIMUM INTENSITY			Maximum	Minimum	Began (hour)	Ended (hour)	Amount (inches)	MAXIMUM RATE				
							5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)						Cu. ft. sec.	Time			
1939	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
Feb. 9	Plot V	3.25	Tarkio 2	10:00A	180	0.42	0.36	0.28	0.26	18	5			None			0.42	None	
"	" W	1.97	"	"	180	.42	.36	.32	.26	18	5			-do-			.42	-do-	
"	" X	1.97	"	"	180	.42	.36	.32	.26	18	5			-do-			.42	-do-	
"	"		Tarkio 1	10:00A	180	.42	.36	.32	.26										
"	" Y	3.25	Plum 2	9:55A	185	.40	.36	.32	.28	18	5			-do-			.40	-do-	
"	"		Tarkio 2	10:00A	180	.42	.36	.28	.26										
"	"		Tarkio 1	10:00A	180	.42	.36	.32	.26										
"	" Z	3.12	Plum 2	9:55A	185	.40	.36	.32	.28	18	5			-do-			.40	-do-	
"	"		Tarkio 1	10:00A	180	.42	.36	.32	.26										
Mar. 11	Plot V	3.25	Tarkio 2	5:00P	390	1.60	.60	.60	.52	40	34			None			1.60	None	
"	" W	1.97	"	"	390	1.60	.60	.60	.52	40	34			-do-			1.60	-do-	
"	" X	1.97	"	"	390	1.60	.60	.60	.52	40	34			-do-			1.60	-do-	
"	"		Tarkio 1	5:20P	365	1.56	.48	.48	.48										
"	" Y	3.25	Plum 2	5:15P	380	1.68	.48	.48	.48	40	34			-do-			1.68	-do-	
"	"		Tarkio 2	5:00P	390	1.60	.60	.60	.52										
"	"		Tarkio 1	5:20P	365	1.56	.48	.48	.48										
"	" Z	3.12	Plum 2	5:15P	380	1.68	.48	.48	.48	40	34			-do-			1.68	-do-	
"	"		Tarkio 1	5:20P	365	1.56	.48	.48	.48										
April 4	Plot V	3.25	Tarkio 2	3:15P	285	.81	.48	.40	.38	58	41			None			.81	None	
"	" W	1.97	"	"	285	.81	.48	.40	.38	58	41			-do-			.81	-do-	
"	" X	1.97	"	"	285	.81	.48	.40	.38	58	41			-do-			.81	-do-	
"	"		Tarkio 1	3:05P	255	.79	.36	.36	.34										
"	" Y	3.25	Plum 2	3:00P	260	.79	.36	.36	.36	58	41			-do-			.79	-do-	
"	"		Tarkio 2	3:15P	285	.81	.48	.40	.38										
"	"		Tarkio 1	3:05P	255	.79	.36	.36	.34										
"	" Z	3.12	Plum 2	3:00P	260	.79	.36	.36	.36	58	41			-do-			.79	-do-	
"	"		Tarkio 1	3:05P	255	.79	.36	.36	.34										
April 10	Plot V	3.25	Tarkio 2			.21	Clock not operating properly				60	45		None			.21	None	
"	" W	1.97	"			.21		-do-		60	45			-do-			.21	-do-	
"	" X	1.97	"			.21		-do-		60	45			-do-			.21	-do-	
"	"		Tarkio 1	2:45P	140	.21	.24	.16	.12										
"	" Y	3.25	Plum 2	2:30P	155	.23	.24	.20	.14	60	45			-do-			.23	-do-	
"	"		Tarkio 2			.21	Clock not operating properly												
"	"		Tarkio 1	2:45P	140	.21	.24	.16	.12										
"	" Z	3.12	Plum 2	2:30P	155	.23	.24	.20	.14	60	45			-do-			.23	-do-	
"	"		Tarkio 1	2:45P	140	.21	.24	.16	.12										



MONTH May, June, 1939

PROJECT Clarinda, Iowa

SHEET 2 OF 8 SHEETS

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

U. S. GOVERNMENT PRINTING OFFICE 8-12368

U. S. GOVERNMENT PRINTING OFFICE 8-12368																			
DATE	WATERSHED		RAINFALL							TEMPERATURE (degrees F.)		RUN-OFF					RAINFALL MINUS RUN-OFF (inches)	SILT LOSS (tons per acre)	CONDITION OF WATERSHED
	Number	Area (acres)	Gage No.	Began (hour)	Duration (minutes)	Amount (inches)	MAXIMUM INTENSITY			Maximum	Minimum	Began (hour)	Ended (hour)	Amount (inches)	MAXIMUM RATE				
							5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)						Cu. ft. sec.	Time			
1939	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
May 25	Plot V	3.25	Tarkio2	11:45A	320	0.83	0.84	0.60	0.48	89	64			None			0.83	None	
"	" W	1.97	"	"	320	.83	.84	.60	.48	89	64			-do-			.83	-do-	
"	" X	1.97	"	"	320	.83	.84	.60	.48	89	64			-do-			.83	-do-	
"	"		Tarkio1	12:15A	310	.95	1.92	1.04	.68										
"	" Y	3.25	Plum 2	11:40A	315	.94	1.68	.96	.68	89	64			-do-			.94	-do-	
"	"		Tarkio2	11:45A	320	.83	.84	.60	.48										
"	"		Tarkio1	12:15A	310	.95	1.92	1.04	.68										
"	" Z	3.12	Plum 2	11:40A	315	.94	1.68	.96	.68	89	64			-do-			.94	-do-	
"	"		Tarkio1	12:15A	310	.95	1.92	1.04	.68										
June 2	Plot V	3.25	Tarkio2	9:08A	22	.34	2.16	1.24	.68	81	64			None			.34	None	
"	" W	1.97	"	"	22	.34	2.16	1.24	.68	81	64			-do-			.34	-do-	
"	" X	1.97	"	"	22	.34	2.16	1.24	.68	81	64			-do-			.34	-do-	
"	"		Tarkio1	9:10A	55	.36	2.88	1.32	.70										
"	" Y	3.25	Plum 2	9:08A	17	.29	2.16	1.12	.58	81	64			-do-			.29	-do-	
"	"		Tarkio2	9:08A	22	.34	2.16	1.24	.68	81	64								
"	"		Tarkio1	9:10A	55	.36	2.88	1.32	.70										
"	" Z	3.12	Plum 2	9:08A	17	.29	2.16	1.15	.58	81	64			-do-			.29	-do-	
"	"		Tarkio1	9:10A	55	.36	2.88	1.32	.70										
June 7	Plot V	3.25	Tarkio2	3:53P	30	.55	1.92	1.60	1.10	90	62			None			.55	None	
"	" W	1.97	"	"	30	.55	1.92	1.60	1.10	90	62			-do-			.55	-do-	
"	" X	1.97	"	"	30	.55	1.92	1.60	1.10	90	62			-do-			.55	-do-	
"	"		Tarkio1	3:52P	38	.57	2.40	1.68	1.12										
"	" Y	3.25	Plum 2	3:45P	40	.44	1.68	1.28	.80	90	62			-do-			.44	-do-	
"	"		Tarkio2	3:53P	30	.55	1.92	1.60	1.10										
"	"		Tarkio1	3:52P	38	.57	2.40	1.68	1.12										
"	" Z	3.12	Plum 2	3:45P	40	.44	1.68	1.28	.80	90	62			-do-			.44	-do-	
"	"		Tarkio1	3:52P	38	.57	2.40	1.68	1.12										
June 8&9	Plot V	3.25	Tarkio2	9:10P	245	2.23	5.52	3.88	2.64	83	59	10:06P	1:16A	0.494	5.66	10:11P	1.74	0.402	Ground was moist before the storm.
"	" W	1.97	"	"	245	2.25	5.52	3.88	2.64	83	59	10:03P	6:00A	.885	8.00	10:08P	1.37	.909	-do-
"	" X	1.97	"	"	245	2.25	5.52	3.88	2.64	83	59	9:36P	12:30A	.065	.61	10:15P	2.19	.012	-do-
"	"		Tarkio1	9:15P	255		4.56	3.60	2.56										
"	" Y	3.25	Plum 2	9:08P	252	2.25	5.76	4.16	2.72	83	59	10:04P	1:10A	.606	10.07	10:10P	1.64	.924	-do-
"	"		Tarkio2	9:10P	245		5.52	3.88	2.64										
"	"		Tarkio1	9:15P	255		4.56	3.60	2.56										
"	" Z	3.12	Plum 2	9:08P	252	2.31	5.76	4.16	2.72	83	59	9:48P	1:34A	.177	1.24	10:21P	2.13	.085	-do-
"	"		Tarkio1	9:15P	255		4.56	3.60	2.56										
1 Note: Hydrograph corrected. All runoff was retained in the silt box.																			

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

PROJECT Clarinda, Iowa

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

MONTH June, 1939

SHEET 3 OF 8 SHEETS

DATE	WATERSHED		RAINFALL							TEMPERATURE (degrees F.)		RUN-OFF					RAINFALL MINUS RUN-OFF (inches)	SILT LOSS (tons per acre)	CONDITION OF WATERSHED	
	Number	Area (acres)	Gage No.	Began (hour)	Duration (minutes)	Amount (inches)	MAXIMUM INTENSITY			Maximum	Minimum	Began (hour)	Ended (hour)	Amount (inches)	MAXIMUM RATE					
							5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)						Cu. ft. sec.	Time				
1939	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	
June 10	Plot V	3.25	Tarkio2	3:05A	70			1.32	.88	.70	74	51								
"	" W	1.97	"	"	70			1.32	.88	.70	74	51								
"	" X	1.97	"	"	70			1.32	.88	.70	74	51								
"	"		Tarkio1	3:00A	75			.96	.92	.72										
"	" Y	3.25	Plum 2	3:00A	75			1.32	.96	.78	74	51								
"	"		Tarkio2	3:05A	70			1.32	.88	.70										
"	"		Tarkio1	3:00A	75			.96	.92	.72										
"	" Z	3.12	Plum 2	3:00A	75			1.32	.96	.78	74	51								
"	"		Tarkio1	3:00A	75			.96	.92	.72										
June 10	Plot V	3.25	Tarkio2	8:13A	32	.87		1.56	.96	.62	74	51	3:43A	9:39A	0.163	1.05	8:28A	0.71	0.036	Corn was 8 inches high.
"	" W	1.97	"	"	32	.86		1.56	.96	.62	74	51	3:30A	10:30A	.396	1.86	8:27A	.46	.368	-do-
"	" X	1.97	"	"	32	.85		1.56	.96	.62	74	51	3:08A	9:16A	.026	.255	8:33A	.82	.010	-do-
"	"		Tarkio1	8:14A	46			1.56	1.04	.62										
"	" Y	3.25	Plum 2	8:13A	32	.85		1.80	.96	.58	74	51	3:32A	11:30A	.244	1.64	8:20A	.61	.198	-do-
"	"		Tarkio2	8:13A	32			1.56	.96	.62										
"	"		Tarkio1	8:14A	46			1.56	1.04	.62										
"	" Z	3.12	Plum 2	8:13A	32	.86		1.80	.96	.58	74	51	4:05A	10:21A	.037	.22	8:39A	.82	.014	-do-
"	"		Tarkio1	8:14A	46			1.56	1.04	.62										All runoff retained in silt box.
June 13	Plot V	3.25	Tarkio2	4:35A	90	.63		1.56	.92	.74	71	56			None			.63	None	
"	" W	1.97	"	"	90	.63		1.56	.92	.74	71	56			-do-			.63	-do-	
"	" X	1.97	"	"	90	.63		1.56	.92	.74	71	56			-do-			.63	-do-	
"	"		Tarkio1	4:30A	105	.57		1.32	.96	.70										
"	" Y	3.25	Plum 2	4:30A	95	.65		1.20	1.00	.76	71	56	5:08A	5:38A	.049	.66	5:12A	.60	.052	Corn was 14 inches high.
"	"		Tarkio2	4:35A	90			1.56	.92	.74										All runoff retained insilt box.
"	"		Tarkio1	4:30A	105			1.32	.96	.70										
"	" Z	3.12	Plum 2	4:30A	95	.58		1.20	1.00	.76	71	56			None			.58	None	
"	"		Tarkio1	4:30A	105	.57		1.32	.96	.70										
June 18	Plot V	3.25	Tarkio2	6:45P	345	1.30		2.88	2.24	1.34	89	63			None			1.30	None	
& 19"	" W	1.97	"	"	345	1.30		2.88	2.24	1.34	89	63	6:48P	2:22A	.065	.15	12:18A	1.24	.034	All runoff retained in silt box. Corn was 20 inches high.
"	" X	1.97	"	"	345	1.30		2.88	2.24	1.34	89	63			None			1.30	None	
"	"		Tarkio1	6:45P	345	1.35		3.12	2.24	1.36										
"	" Y	3.25	Plum 2	6:43P	377	1.14		2.88	1.60	1.00	89	63	7:02P	12:40A	.095	1.37	7:04A	1.04	.073	Corn was 20 inches high.
"	"		Tarkio2	6:45P	345			2.88	2.24	1.34										All runoff retained in silt box.
"	"		Tarkio1	6:45P	345			3.12	2.24	1.36										
"	" Z	3.12	Plum 2	6:43P	377	1.13		2.88	1.60	1.00	89	63			None			1.13	None	
"	"		Tarkio1	6:45P	345	1.35		3.12	2.24	1.36										

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RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

SHEET 4 OF 8 SHEETS

DATE	WATERSHED		RAINFALL							TEMPERATURE (degrees F.)		RUN-OFF					RAINFALL MINUS RUN-OFF (inches)	SILT LOSS (tons per acre)	CONDITION OF WATERSHED
	Number	Area (acres)	Gage No.	Began (hour)	Duration (minutes)	Amount (inches)	MAXIMUM INTENSITY			Maximum	Minimum	Began (hour)	Ended (hour)	Amount (inches)	MAXIMUM RATE				
							5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)						Cu. ft. sec.	Time			
1939	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
June 20	Plot V	3.25	Tarkio2	9:58P	352	1.52	2.88	2.28	1.78	77	62	10:03P	3:41A	0.379	2.73	10:20P	1.14	0.412	Corn 22 inches high.
" 21	" W	1.97	"	"	352	1.58	2.88	2.28	1.78	77	62	10:01P	11:50A	.689	2.48	10:11P	.89	2.244	-do-
"	" X	1.97	"	"	352	1.63	2.88	2.28	1.78	77	62	9:59P	12:00MN	.135	.77	10:26P	1.49	.044	-do-
"	"		Tarkio1	9:58P	352		2.16	2.00	1.70										
"	" Y	3.25	Plum 2	9:53P	357	1.62	2.52	2.08	1.74	77	62	10:02P	3:40A	.418	3.26	10:05P	1.20	.732	-do-
"	"		Tarkio2	9:58P	352		2.88	2.28	1.78										
"	"		Tarkio1	9:58P	352		2.16	2.00	1.70										
"	" Z	3.12	Plum 2	9:53P	357	1.51	2.52	2.08	1.74	77	62	10:02P	11:50A	.132	.99	10:26P	1.42	.034	-do-
"	"		Tarkio1	9:58P	352		2.16	2.00	1.70										
June 21	Plot V	3.25	Tarkio2	8:50P	180	.64	.84	.64	.44	74	62	8:58P	4:50A	.073	.71	9:13P	.57	.025	Corn 24 inches high.
" 22	" W	1.97	"	"	180	.67	.84	.64	.44	74	62	8:58P	4:20A	.298	.99	9:08P	.37	.726	-do-
"	" X	1.97	"	"	180	.67	.84	.64	.44	74	62	9:02P	4:10A	.004	.10	9:34P	.67	.002	-do-
"	"		Tarkio1	8:55P	170		1.08	.76	.54										
"	" Y	3.25	Plum 2	8:45P	185	.67	1.08	.72	.50	74	62	9:06P	4:02A	.101	.77	9:14P	.57	.080	-do-
"	"		Tarkio2	8:50P	180		.84	.64	.44										
"	"		Tarkio1	8:55P	170		1.08	.76	.54										
"	" Z	3.12	Plum 2	8:45P	185	.63	1.08	.72	.50	74	62	9:04P	3:40A	.013	.10	9:34P	.53	.004	-do-
"	"		Tarkio1	8:55P	170		1.08	.76	.54										
June 25	Plot V	3.25	Tarkio2	5:00A	135	.56	.36	.32	.26	79	65			None					
"	" W	1.97	"	"	135	.54	.36	.32	.26	79	65	5:00A	7:15A	.016	.125	7:14A	.41	.010	Corn 28 inches high. Note all
"	" X	1.97	"	"	135	.56	.36	.32	.26	79	65			None			.56	None	runoff retained in silt box.
"	"		Tarkio1	7:15A	133	.55	.48	.36	.36										
"	" Y	3.25	Plum 2	4:45A	95	.54	.48	.32	.26	79	65			None			.54	None	
"	"		Tarkio2	5:00A	135	.56	.36	.32	.26										
"	"		Tarkio1	7:15A	133	.55	.48	.36	.36										
"	" Z	3.12	Plum 2	4:45A	95	.54	.48	.32	.26	79	65			None			.54	None	
"	"		Tarkio1	7:15A	133	.55	.48	.36	.36										
July 1	Plot V	3.25	Tarkio2	3:00A	125	.27	.24	.24	.22	81	61			None			.27	None	
"	" W	1.97	"	"	125	.27	.24	.24	.22	81	61			None			.27	None	
"	" X	1.97	"	"	125	.27	.24	.24	.22	81	61			None			.27	None	
"	"		Tarkio1	3:40A	65	.24	.36	.28	.24										
"	" Y	3.25	Plum 2	2:10A	105	.25	.36	.24	.18	81	61			None			.25	None	
"	"		Tarkio2	3:00A	125	.27	.24	.24	.22										
"	"		Tarkio1	3:40A	65	.24	.36	.28	.24										
"	" Z	3.12	Plum 2	2:10A	105	.25	.36	.24	.18	81	61			None			.25	None	
"	"		Tarkio1	3:40A	65	.24	.36	.28	.24										

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DIVISION OF RESEARCH

PROJECT Clarinda, Iowa

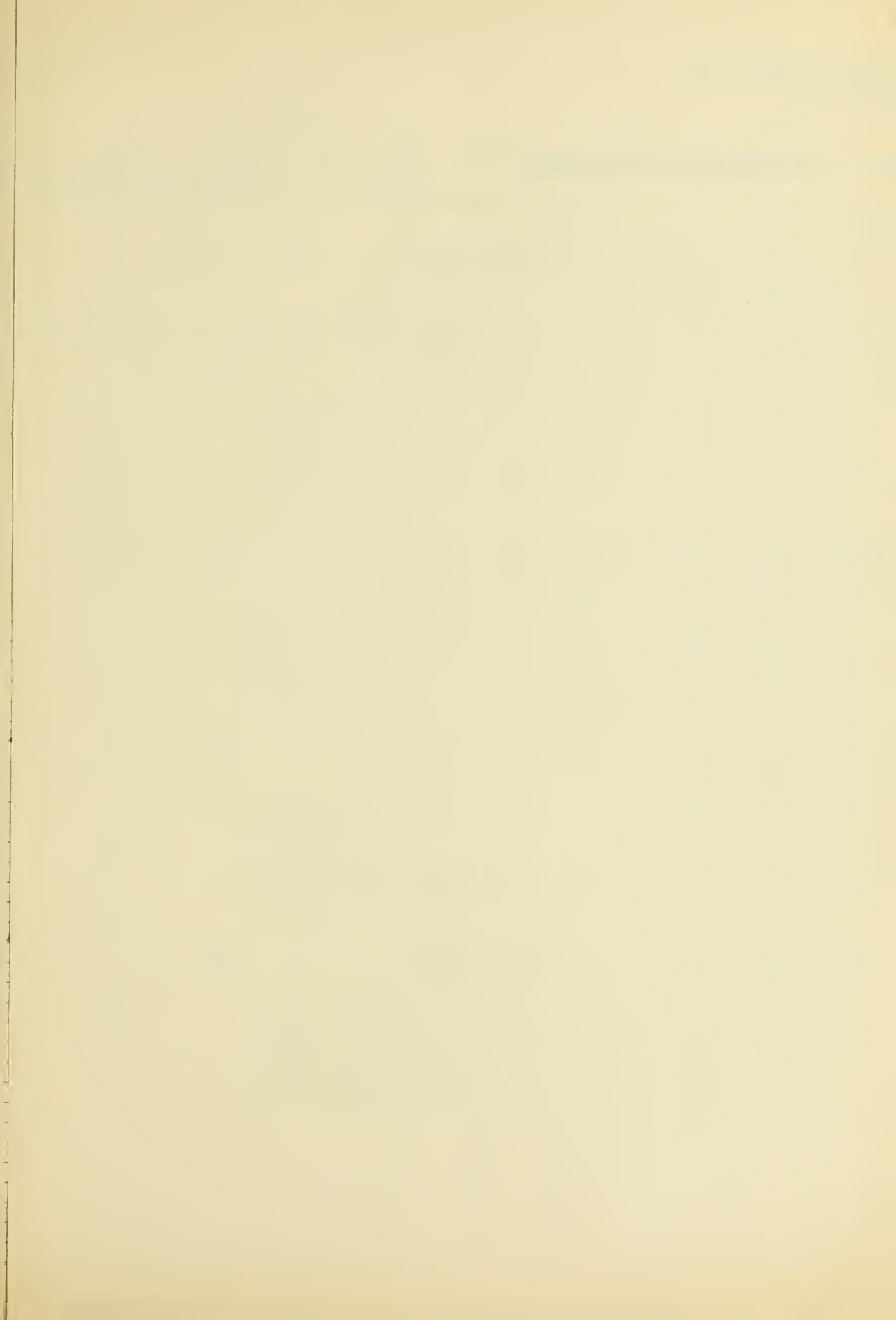
MONTH July, 19 39

SHEET 5 OF 8 SHEETS

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

U. S. GOVERNMENT PRINTING OFFICE 8-12368

DATE	WATERSHED		RAINFALL							TEMPERATURE (degrees F.)		RUN-OFF					RAINFALL MINUS RUN-OFF (inches)	SILT LOSS (tons per acre)	CONDITION OF WATERSHED
	Number	Area (acres)	Oage No.	Began (hour)	Duration (minutes)	Amount (inches)	MAXIMUM INTENSITY			Maximum	Minimum	Began (hour)	Ended (hour)	Amount (inches)	MAXIMUM RATE				
							5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)						Cu. ft. sec.	Time			
1939	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)		(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
July 3	Plot V	3.25	Tarkio2	10:35P	40		5.04	3.32	2.04	82	66	Refer to 7/4/39							
"	" W	1.97	"	"	40		5.04	3.32	2.04	82	66		-do-						
"	" X	1.97	"	"	40		5.04	3.32	2.04	82	66		-do-						
"	"		Tarkio1	10:40P	30		6.24	3.08	1.82										
"	" Y	3.25	Plum 2	10:37P	33		5.52	3.12	1.90	82	66		-do-						
"	"		Tarkio2	10:35P	40		5.04	3.32	2.04										
"	"		Tarkio1	10:40P	30		6.24	3.08	1.82										
"	" Z	3.12	Plum 2	10:37P	33		5.52	3.12	1.90	82	66		-do-						
"	"		Tarkio1	10:40P	30		6.24	3.08	1.82										
July 4	Plot V	3.25	Tarkio2	12:10A	75	1.29	.96	.80	.56	88	64	10:40P	2:55A	.261	2.09	10:51P	1.03	.501	Corn 51 inches high.
"	" W	1.97	"	"	75	1.23	.96	.80	.56	88	64	10:40P	2:28A	.356	2.40	11:01P	.87	2.604	Corn 50 inches high.
"	" X	1.97	"	"	75	1.20	.96	.80	.56	88	64	10:40P	3:09A	.052	.29	11:05P	1.15	.025	Corn 42 inches high.
"	"		Tarkio1	12:10A	75		.96	.80	.56										
"	" Y	3.25	Plum 2	12:10A	80	1.21	.96	.80	.54	88	64	10:46P	1:54A	.099	.99	11:04P	1.11	.142	Corn 60 inches high.
"	"		Tarkio2	12:10A	75		.96	.80	.56										
"	"		Tarkio1	12:10A	75		.96	.80	.56										
"	" Z	3.12	Plum 2	12:10A	80	1.16	.96	.80	.54	88	64	11:10P	2:19A	.009	.08	1:32A	1.15	.004	Corn 60 inches high.
"	"		Tarkio1	12:10A	75		.96	.80	.56										
July 5	Plot V	3.25	Tarkio2	3:20A	95	.36	.96	.88	.54	92	66	4:22A	6:12A	.031	.415	4:35A	.33	.056	Corn 51 inches high.
"	" W	1.97	"	"	95	.38	.96	.88	.54	92	66	4:24A	6:00A	.157	1.24	4:33A	.22	.724	Corn 50 inches high.
"	" X	1.97	"	"	95	.39	.96	.88	.54	92	66	4:26A	6:00A	.013	.125	4:48A	.38	.010	Corn 42 inches high.
"	"		Tarkio1	3:20A	90		1.56	.84	.42										
"	" Y	3.25	Plum 2	3:20A	95	.39	1.08	.76	.42	92	66	4:38A	5:24A	.019	.10	4:44A	.37	.028	Corn 60 inches high.
"	"		Tarkio2	3:20A	95		.96	.88	.54										
"	"		Tarkio1	3:20A	90		1.56	.84	.42										
"	" Z	3.12	Plum 2	3:20A	95	.34	1.08	.76	.42	92	66			None			.34	None	
"	"		Tarkio1	3:20A	90	.35	1.56	.84	.42										
July 17	Plot V	3.25	Tarkio2	12:53A	92	.42	1.92	.92	.56	89	69			None			.42	None	
"	" W	1.97	"	"	92	.42	1.92	.92	.56	89	69			None			.42	None	
"	" X	1.97	"	"	92	.42	1.92	.92	.56	89	69			None			.42	None	
"	"		Tarkio1	12:55A	110	.44	1.68	.96	.56										
"	" Y	3.25	Plum 2	12:48A	102	.41	1.68	.92	.54	89	69			None			.41	None	
"	"		Tarkio2	12:53A	92	.42	1.92	.92	.56										
"	"		Tarkio1	12:55A	110	.44	1.68	.96	.56										
"	" Z	3.12	Plum 2	12:48A	102	.41	1.68	.92	.54	89	69			None			.41	None	
"	"		Tarkio1	12:55A	110	.44	1.68	.96	.56										



RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

MONTH July & August, 1939

SHEET 6 OF 8 SHEETS

U. S. GOVERNMENT PRINTING OFFICE 8-12348

DATE	WATERSHED		RAINFALL							TEMPERATURE (degrees F.)		RUN-OFF					RAINFALL MINUS RUN-OFF (inches)	SILT LOSS (tons per acre)	CONDITION OF WATERSHED
	Number	Area (acres)	Gage No.	Began (hour)	Duration (minutes)	Amount (inches)	MAXIMUM INTENSITY			Maximum	Minimum	Began (hour)	Ended (hour)	Amount (inches)	MAXIMUM RATE				
							5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)						Cu. ft. sec.	Time			
1939	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
July 25	Plot V	3.25	Tarkio2	1:05A	70	.85	1.44	1.32	.96	89	62			None			.85	None	
"	" W	1.97	"	"	70	.85	1.44	1.32	.96	89	62			None			.85	None	
"	" X	1.97	"	"	70	.85	1.44	1.32	.96	89	62			None			.85	None	
"	"		Tarkio1	1:08A	67	.88	1.80	1.40	.98										
"	" Y	3.25	Plum 2	1:05A	65	.83	1.32	1.32	1.00	89	62			None			.83	None	
"	"		Tarkio2	"	70	.85	1.44	1.32	.96										
"	"		Tarkio1	1:08A	67	.88	1.80	1.40	.98										
"	" Z	3.12	Plum 2	1:05A	65	.83	1.32	1.32	1.00	89	62			None			.83	None	
"	"		Tarkio1	1:08A	67	.88	1.80	1.40	.98										
July 28	Plot V	3.25	Tarkio2	1:35A	30	.61	2.76	2.20	1.18	87	66	1:40A	2:50A	.023	.93	1:54A	.59	.014	Corn 96 inches high.
"	" W	1.97	"	"	30	.59	2.76	2.20	1.18	87	66	1:40A	3:12A	.009	.15	1:56A	.58	.032	-do-
"	" X	1.97	"	"	30	.59	2.76	2.20	1.18	87	66			None			.59	None	
"	"		Tarkio1	1:35A	20	.57	2.64	2.20	1.14										
"	" Y	3.25	Plum 2	1:30A	25	.60	2.64	2.16	1.20	87	66			None			.60	None	
"	"		Tarkio2	1:35A	30	.59	2.76	2.20	1.18										
"	"		Tarkio1	1:35A	20	.57	2.64	2.20	1.14										
"	" Z	3.12	Plum 2	1:30A	25	.60	2.64	2.16	1.20	87	66			None			.60	None	
"	"		Tarkio1	1:35A	20	.57	2.64	2.20	1.14										
Aug. 1	Plot V	3.25	Tarkio2	11:50A	160	.22	.96	.40	.24	80	71			None			.22	None	
"	" W	1.97	"	"	160	.22	.96	.40	.24	80	71			None			.22	None	
"	" X	1.97	"	"	160	.22	.96	.40	.24	80	71			None			.22	None	
"	"		Tarkio1	11:55A	155	.20	1.56	.52	.26										
"	" Y	3.25	Plum 2	11:50A	160	.20	1.44	.48	.24	80	71			None			.20	None	
"	"		Tarkio2	11:50A	160	.22	.96	.40	.24										
"	"		Tarkio1	11:55A	155	.20	1.56	.52	.26										
"	" Z	3.12	Plum 2	11:50A	160	.20	1.44	.48	.24	80	71			None			.20	None	
"	"		Tarkio1	11:55A	155	.20	1.56	.52	.26										
Aug. 7	Plot V	3.25	Tarkio 2	3:48P	107	.26	.48	.32	.22	84	65			None			.26	None	
"	" W	1.97	"	"	107	.26	.48	.32	.22	84	65			None			.26	None	
"	" X	1.97	"	"	107	.26	.48	.32	.22	84	65			None			.26	None	
"	"		Tarkio1	3:45P	105	.26	.60	.44	.24										
"	" Y	3.25	Plum 2	3:42P	108	.29	.60	.48	.28	84	65			None			.29	None	
"	"		Tarkio2	3:48P	107	.26	.48	.32	.22										
"	"		Tarkio1	3:45P	105	.26	.60	.44	.24										
"	" Z	3.12	Plum 2	3:42P	108	.29	.60	.48	.28	84	65			None			.29	None	
"	"		Tarkio1	3:45P	105	.26	.60	.44	.24										

RECORD OF SINGLE STORMS AND THEIR RUN-OFFS ON VARIOUS WATERSHEDS

MONTH Aug., Sept., Oct., 19 39

SHEET 7 OF 8 SHEETS

U. S. GOVERNMENT PRINTING OFFICE 8-12363																			
DATE	WATERSHED		RAINFALL							TEMPERATURE (degrees F.)		RUN-OFF					RAINFALL MINUS RUN-OFF (inches)	SILT LOSS (tons per acre)	CONDITION OF WATERSHED
	Number	Area (acres)	Gage No.	Began (hour)	Duration (minutes)	Amount (inches)	MAXIMUM INTENSITY			Maximum	Minimum	Began (hour)	Ended (hour)	Amount (inches)	MAXIMUM RATE				
							5 minutes (inches per hour)	15 minutes (inches per hour)	30 minutes (inches per hour)						Cu. ft. sec.	Time			
1939	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
Aug. 7&8	Plot V	3.25	Tarkio 2	9:00A	300	.35	.48	.44	.32	84	59			None			0.35	None	
"	" W	1.97	"	"	300	.35	.48	.44	.32	84	59			-do-			.35	-do-	
"	" X	1.97	"	"	300	.35	.48	.44	.32	84	59			-do-			.35	-do-	
"	"		Tarkio 1	9:00P	255	.32	.72	.40	.28										
"	" Y	3.25	Plum 2	8:55P	305	.36	.72	.48	.36	84	59			-do-			.36	-do-	
"	"		Tarkio 2	9:00A	300	.35	.48	.44	.32										
"	"		Tarkio 1	9:00P	255	.32	.72	.40	.28										
"	" Z	3.12	Plum 2	8:55P	305	.36	.72	.48	.36	84	59			-do-			.36	-do-	
"	"		Tarkio 1	9:00P	255	.32	.72	.40	.28										
Aug. 8	Plot V	3.25	Tarkio 2	3:00A	255	.52	.48	.40	.30	73	59			None			.52	None	
"	" W	1.97	"	"	255	.52	.48	.40	.30	73	59			None			.52	None	
"	" X	1.97	"	"	255	.52	.48	.40	.30	73	59			-do-			.52	-do-	
"	"		Tarkio 1	3:30A	290	.55	.36	.36	.32										
"	" Y	3.25	Plum 2	3:35A	210	.47	.48	.48	.32	73	59			-do-			.47	-do-	
"	"		Tarkio 2	3:00A	255	.52	.48	.40	.30										
"	"		Tarkio 1	3:30A	290	.55	.36	.36	.32										
"	" Z	3.12	Plum 2	3:35A	210	.47	.48	.48	.32	73	59			-do-			.47	-do-	
"	"		Tarkio 1	3:30A	290	.55	.36	.36	.32										
Sept. 29	Plot V	3.25	Tarkio 2	1:02A	348	.36	.12	.12	.12	77	38			None			.36	None	
"	" W	1.97	"	"	348	.36	.12	.12	.12	77	38			-do-			.36	-do-	
"	" X	1.97	"	"	348	.36	.12	.12	.12	77	38			-do-			.36	-do-	
"	"		Tarkio 1	1:04A	326	.40	.24	.20	.16										
"	" Y	3.25	Plum 2	1:00A	405	.37	.48	.24	.20	77	38			-do-			.37	-do-	
"	"		Tarkio 2	1:02A	348	.36	.12	.12	.12										
"	"		Tarkio 1	1:04A	326	.40	.24	.20	.16										
"	" Z	3.12	Plum 2	1:00A	405	.37	.48	.24	.20	77	38			-do-			.37	-do-	
"	"		Tarkio 1	1:04A	326	.40	.24	.20	.16										
Oct. 8&9	Plot V	3.25	Tarkio 2	8:05P	270	.91	.60	.48	.36	76	54			None			.91	None	
"	" W	1.97	"	"	270	.91	.60	.48	.36	76	54			None			.91	None	
"	" X	1.97	"	"	270	.91	.60	.48	.36	76	54			-do-			.91	-do-	
"	"		Tarkio 1	7:50P	287	.90	.84	.64	.44										
"	" Y	3.25	Plum 2	7:55P	285	.93	.60	.36	.30	76	54			-do-			.93	-do-	
"	"		Tarkio 2	8:05P	270	.91	.60	.48	.36										
"	"		Tarkio 1	7:50P	287	.90	.84	.64	.44										
"	" Z	3.12	Plum 2	7:55P	285	.93	.60	.36	.30	76	54			-do-			.93	-do-	
"	"		Tarkio 1	7:50P	287	.90	.84	.64	.44										

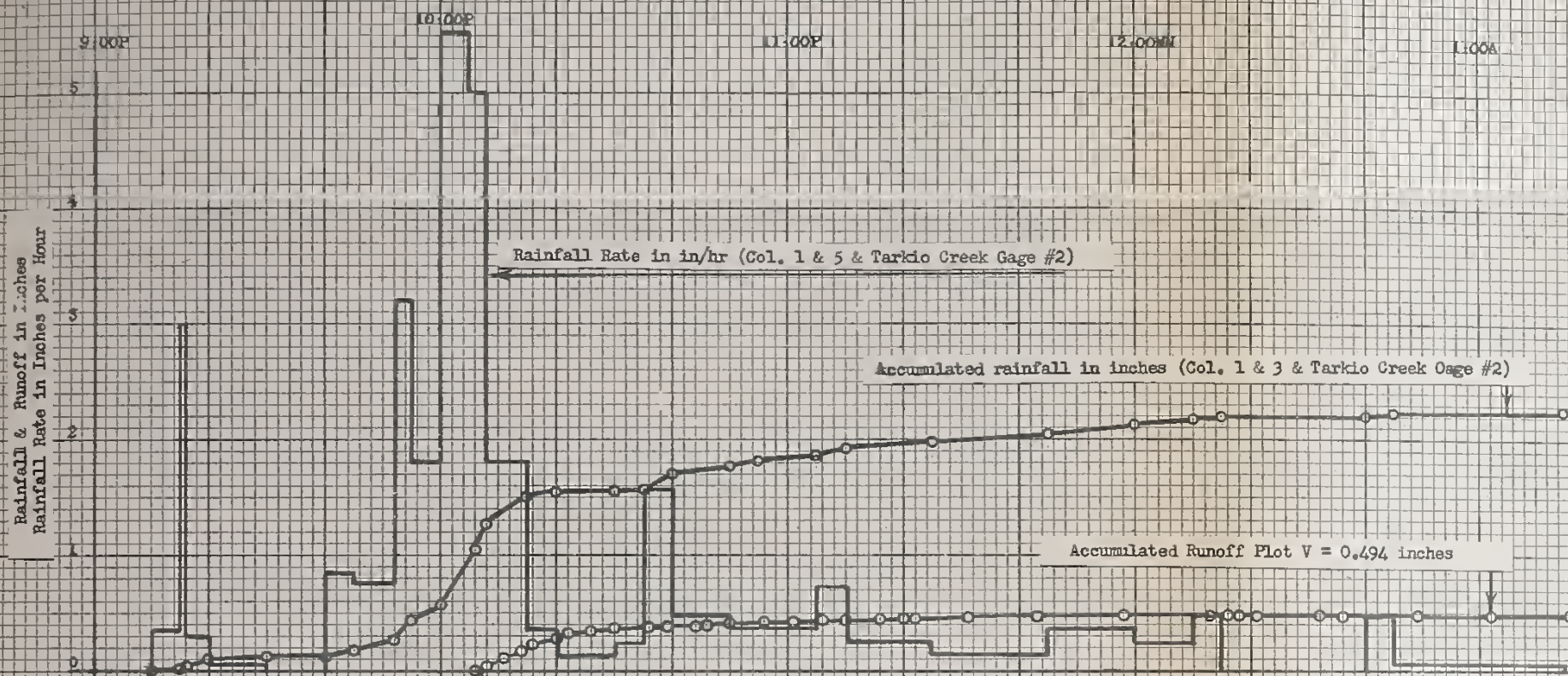
MONTH November, 19 39

SHEET 8 OF 8 SHEETS

[illegible]

Watershed Plot V

June 8 & 9, 1939



(1) (t)	(2) (min)	(3) (in)	(4) (in)	(5) (in/hr)	(6) (in/hr)
9:16PM					
9:15	5	.03	.03	.36	.35
9:16	1	.08	.05	3.00	2.96
9:20	4	.10	.02	.30	.30
9:30	10	.11	.01	.06	.06
9:40	10	.11	.00	.00	.00
9:45	5	.18	.07	.84	.83
9:52	7	.27	.09	.77	.73
9:55	3	.43	.16	3.20	3.16
10:00	5	.58	.15	1.80	1.78
10:05	5	1.04	.46	5.52	5.45
10:08	3	1.29	.25	5.00	4.93
10:15	7	1.50	.21	1.80	1.78
10:20	5	1.53	.03	.36	.35
10:30	10	1.55	.02	.12	.12
10:35	5	1.57	.02	.24	.24
10:40	5	1.70	.13	1.56	1.54
10:50	10	1.78	.08	.48	.47
10:55	5	1.81	.03	.36	.35
11:05	10	1.87	.06	.36	.35
11:10	5	1.93	.06	.72	.71
11:25	15	1.99	.06	.24	.24
11:45	20	2.03	.04	.12	.12
12:00	15	2.12	.09	.36	.35
12:10	10	2.16	.04	.24	.24
12:15	5	2.20	.04	.48	.47
12:40	25	2.20	.00	.00	.00
12:45	5	2.24	.04	.48	.47
1:15A	30	2.26	.02	.04	.04
					2.23*

*Precipitation on Plot V Watershed determined by Horton's Method.

Plot V

AREA (acres)	3.25
PRECEDING RAIN (in)	.55
DATE BEGAN	June 7
DURATION (hours)	30 min.
TEMPERATURE (max. & min.)	83-59
SOIL (major type)	Marshall Silt Loam
PERCENT OF AREA	
SLOPE, AVERAGE (percent)	7.69
MAXIMUM	
COVER, TYPE	Corn
HEIGHT (ft.)	8 inches
DATE LAST CULTIVATED	Planted May 18
SOIL LOSS (tons per acre)	0.402
REMARKS	Four-year rotation- corn, corn, oats, clover

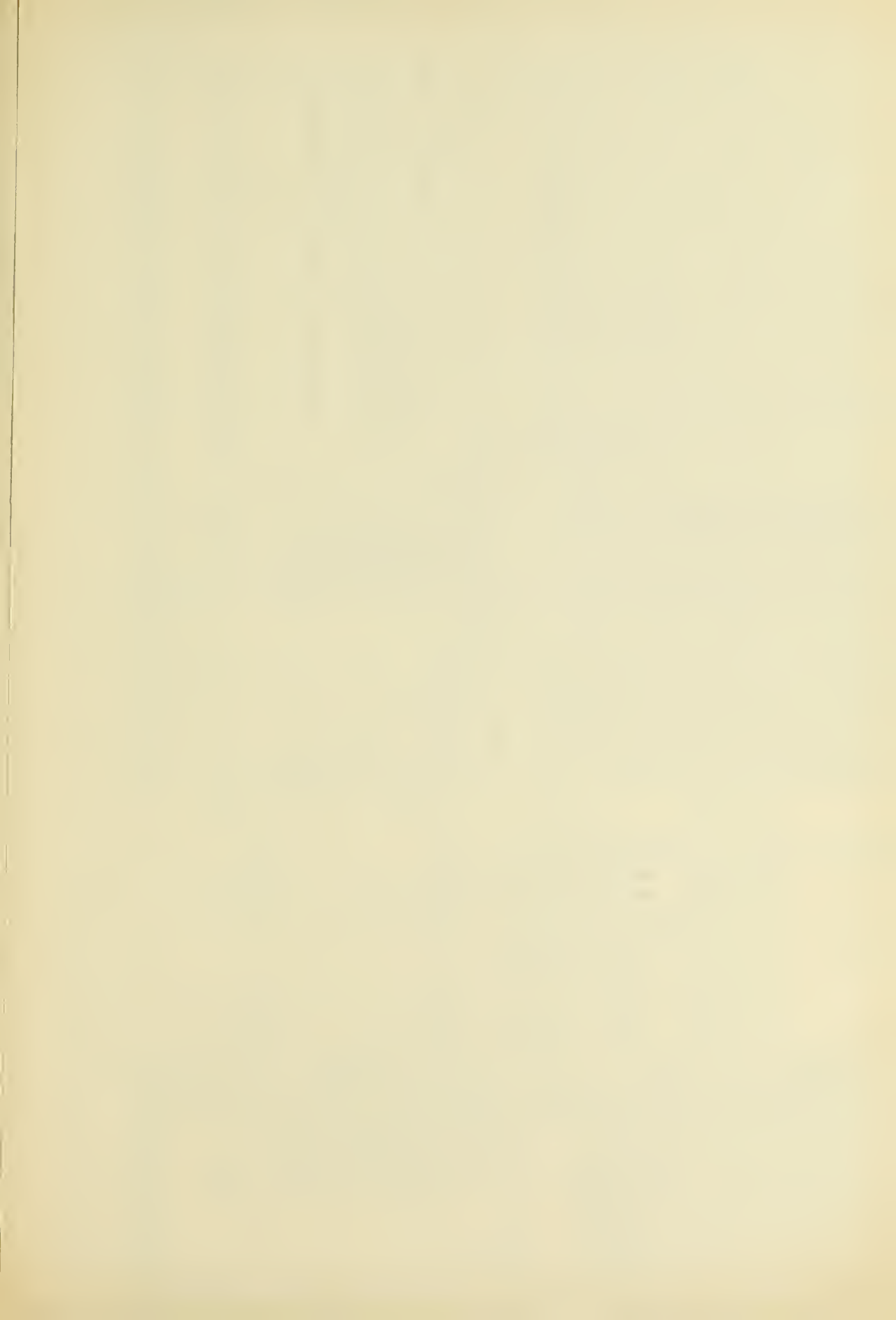
UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
H. H. BENNETT, CHIEF
DIVISION OF RESEARCH, W.C. LOWDERMILK, CHIEF

STORM NO. 12/13-14/

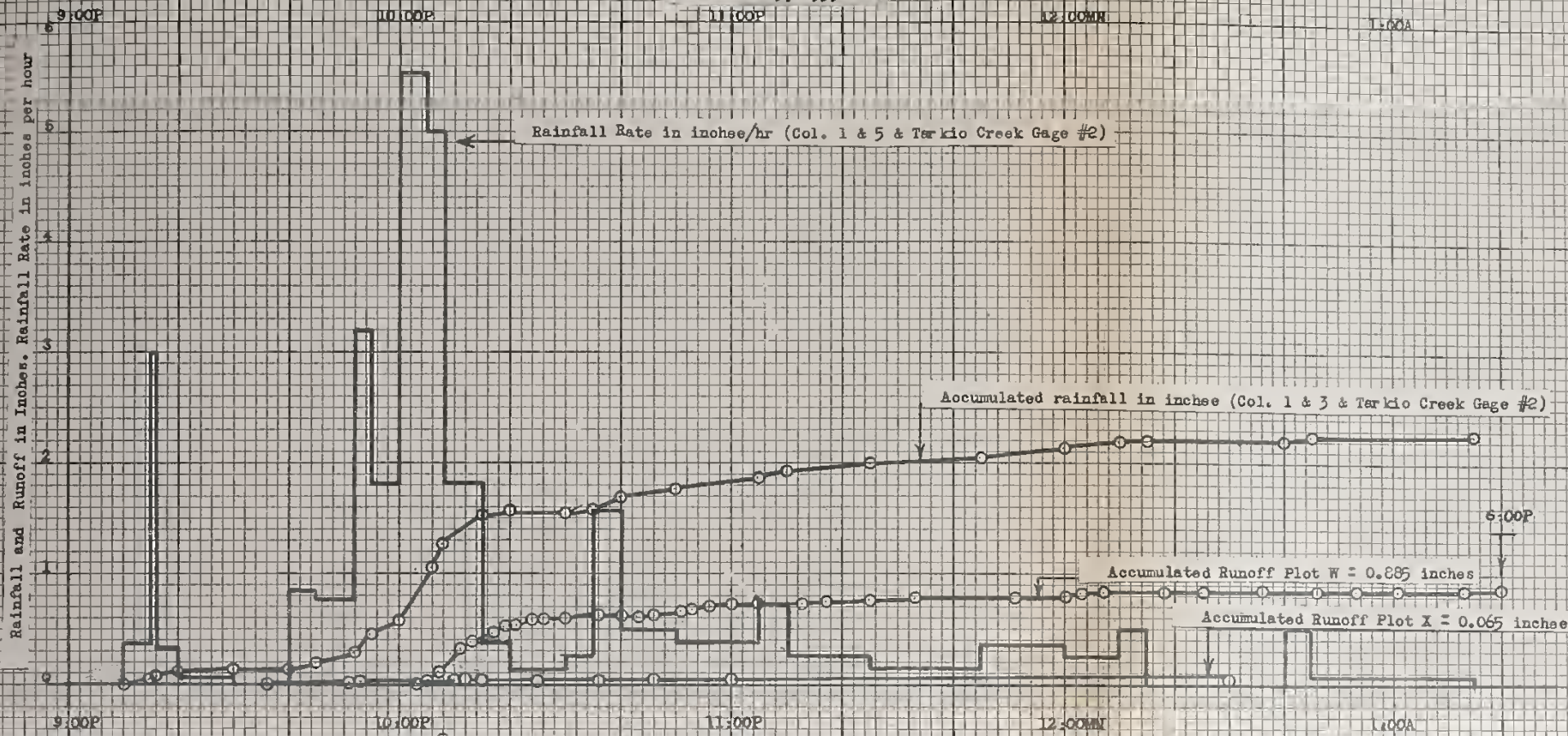
Plot by L.H.S. date 12/29 checked by L.H.S. date 2/3/40
Computations by L.H.S. date Fall/1939 checked by JWD date 11/29

Sheet 1 of 3 Sheets

June 8-9, 1939
Clarinda, Iowa

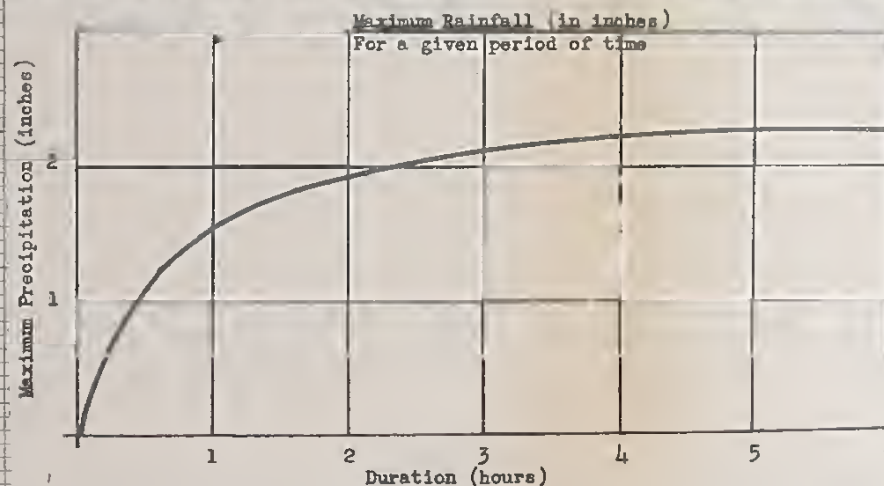
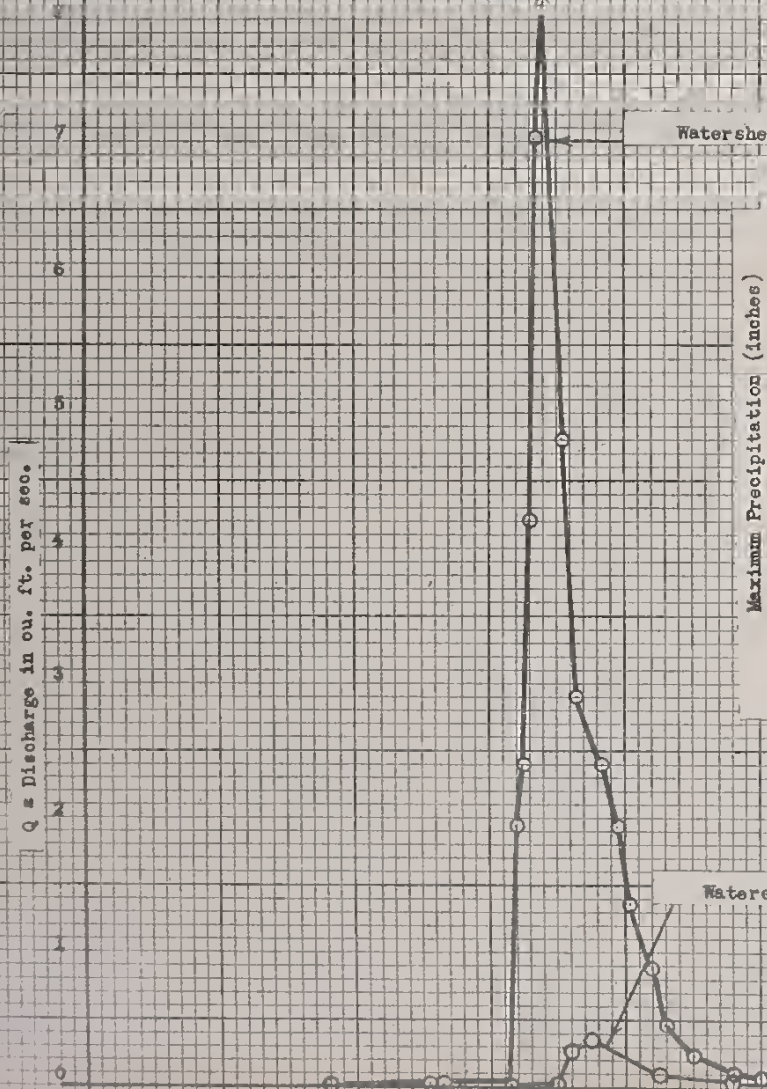
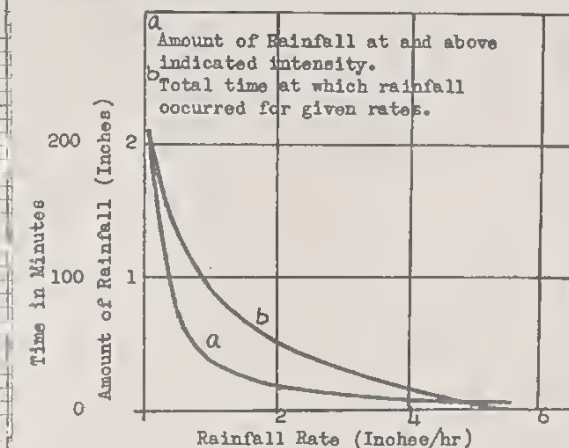


June 8 & 9, 1939



(1) (time)	(2) (min)	(3) (in)	(4) (in)	(5) (in/hr)	(6) Int. Plots W&X Col. 5 x 2.25 2.26
9:10PM					
9:15	5	.03	.03	.36	.36
9:16	1	.08	.05	3.00	2.99
9:20	4	.10	.02	.30	.30
9:30	10	.11	.01	.06	.06
9:40	10	.11	.00	.00	.00
9:45	5	.18	.07	.84	.84
9:52	7	.27	.09	.77	.77
9:55	3	.45	.16	3.20	3.18
10:00	5	.58	.15	1.80	1.79
10:05	5	1.04	.46	5.52	5.50
10:08	3	1.29	.25	5.00	4.98
10:15	7	1.50	.21	1.80	1.79
10:20	5	1.53	.03	.36	.36
10:30	10	1.55	.02	.12	.12
10:35	5	1.57	.02	.24	.24
10:40	5	1.70	.13	1.56	1.55
10:50	10	1.78	.08	.48	.48
10:55	5	1.81	.03	.36	.36
11:05	10	1.87	.06	.36	.36
11:10	5	1.93	.06	.72	.72
11:25	15	1.99	.06	.24	.24
11:45	20	2.03	.04	.12	.12
12:00	15	2.12	.09	.36	.36
12:10	10	2.16	.04	.24	.24
12:15	5	2.20	.04	.48	.48
12:40	25	2.20	.00	.00	.00
12:45	5	2.24	.04	.48	.48
1:15A	30	2.26	.02	.04	.04
					2.25

*Precipitation on Plots W & X determined by Horton's method.



	Plot W	Plot X
Area (acres).....	1.97	1.97
Preceding Rain (in.).....	.55	.55
date began.....	June 7	June 7
duration (hours).....	0 hrs. 30 min.	0 hrs. 30 min.
Temperature (max. & min.).....	83 & 59	83 & 59
Soil (major type).....	Marshall Silt Loam	Marshall Silt Loam
percent of area.....		
Slope, average (percent).....	7.76	7.90
maximum.....		
Cover, type.....	Corn	Corn
height (ft.).....	8 inches	8 inches
date last cultivated.....	Planted May 18	Planted May 18
Soil loss (tons per acre).....	0.002	0.012
Remarks.....	Four year Rotation (corn, corn, corn, oats)	Four year Rotation (corn, corn, corn, oats)

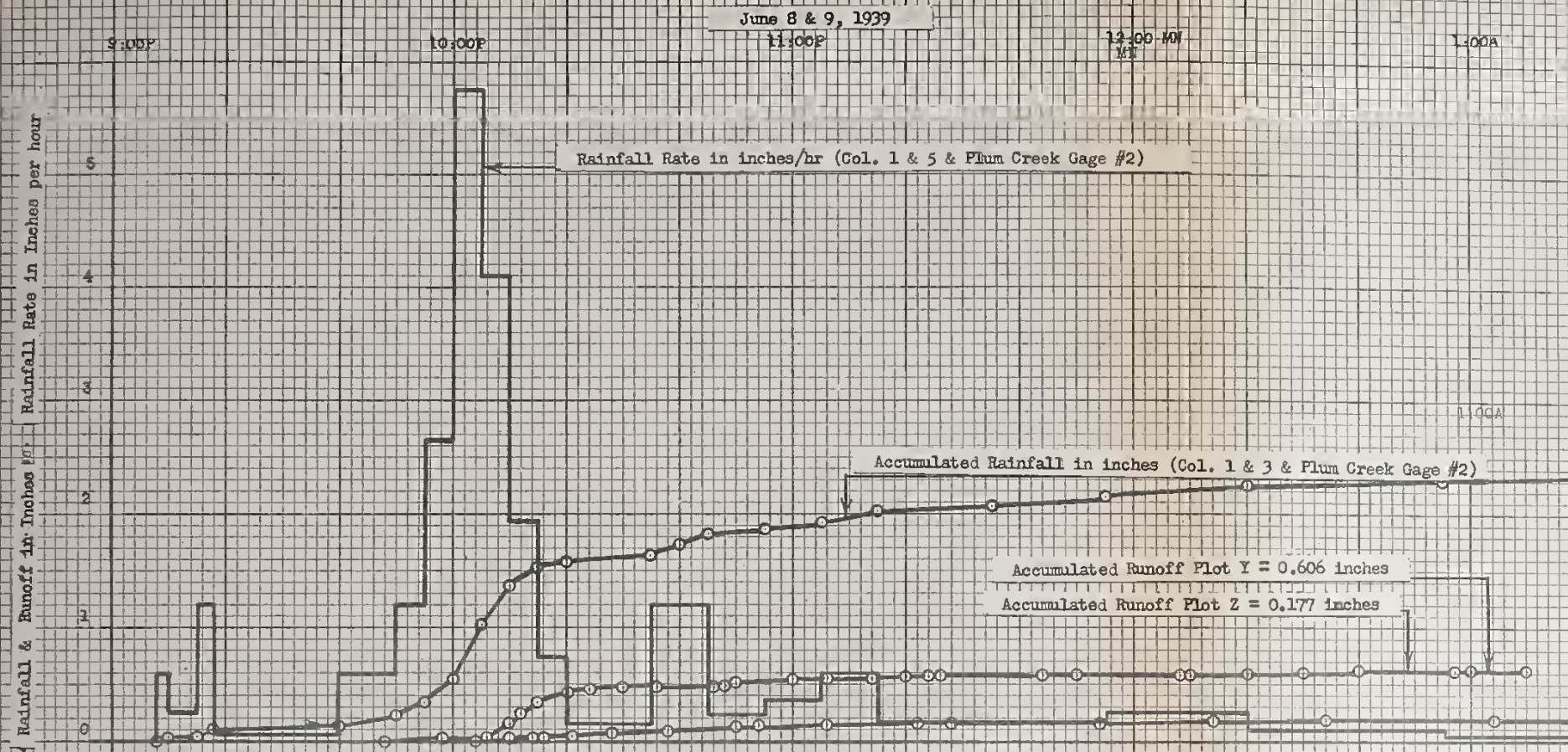
June 8 & 9, 1939
Clarinda, Iowa
Sheet 2 of 3 Sheets

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
H. H. BENNETT, CHIEF,
DIVISION OF RESEARCH. W. C. LOWDERMILK, CHIEF

STORM No. _____

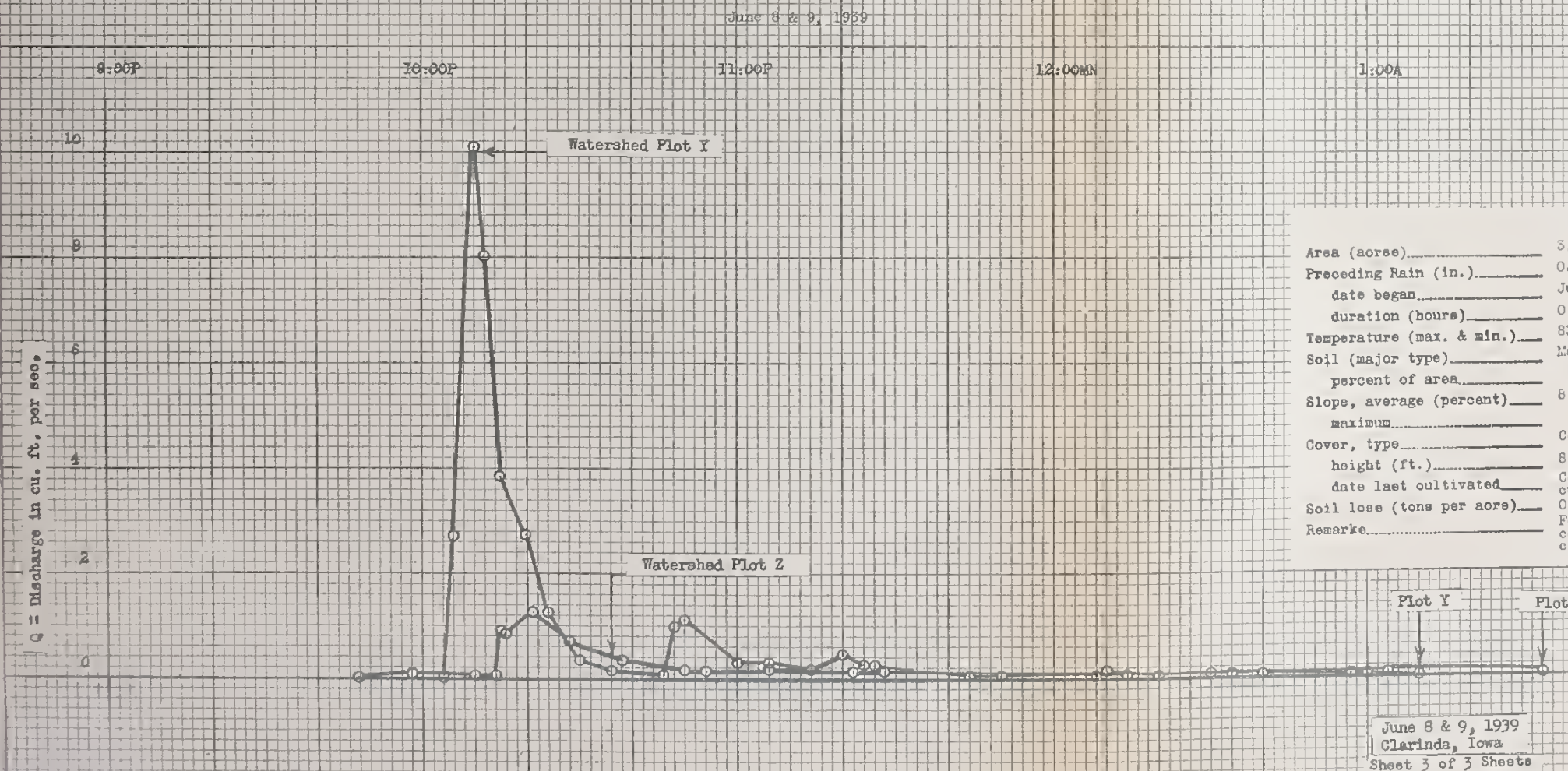
Plot by L.H.S. date 12/14/39 checked by L.H.S. date 2/3/40
Computations by L.H.S. date Fall/39 checked by J.W.D. date 11/39





(1) (t)	(2) (min)	(3) (in)	(4) (in)	(5) (in/hr)	(6) Int. on Plot Y	(7) Int. on Plot Z
					Col. 5x 2.25 2.32	Col. 5x 2.31 2.32
(Time)						
9:08PM						
9:10	2	.02	.02	.60	.58	.60
9:15	5	.04	.02	.24	.23	.24
9:18	3	.10	.06	1.20	1.16	1.19
9:40	22	.12	.02	.05	.05	.05
9:50	10	.22	.10	.60	.58	.60
9:55	5	.32	.10	1.20	1.16	1.19
10:00	5	.54	.22	2.64	2.56	2.63
10:05	5	1.02	.48	5.76	5.59	5.74
10:10	5	1.36	.34	4.08	3.96	4.06
10:15	5	1.52	.15	1.92	1.86	1.91
10:20	5	1.58	.06	.72	.70	.72
10:35	15	1.62	.04	.16	.15	.16
10:40	5	1.72	.10	1.20	1.16	1.19
10:45	5	1.82	.10	1.20	1.16	1.19
10:55	10	1.86	.04	.24	.23	.24
11:05	10	1.92	.06	.36	.35	.36
11:15	10	2.02	.10	.60	.58	.60
11:35	20	2.08	.06	.18	.17	.18
11:55	20	2.14	.06	.18	.17	.18
12:20	25	2.24	.10	.24	.23	.24
12:55	35	2.30	.06	.10	.10	.10
1:20	25	2.32	.02	.05	.05	.05
					2.25*	2.31*

*Precipitation on Watershed Plots Y & Z determined by Horton's method.



	Plot Y	Plot Z
Area (acres).....	3.25	3.12
Preceding Rain (in.).....	0.40	0.40
date began.....	June 7	June 7
duration (hours).....	0 Hrs 44 Min.	0 Hrs 44 Min.
Temperature (max. & min.).....	83 & 59	83 & 59
Soil (major type).....	Marshall silt loam	Marshall silt loam
percent of area.....		9.98
Slope, average (percent).....	6.32	
maximum.....		
Cover, type.....	Corn	Corn
height (ft.).....	8 inches	8 inches
date last cultivated.....	Corn planted May 17; cultivated June 7	Corn planted May 17; cultivated June 8
Soil loss (tons per acre).....	0.924	0.085
Remarks.....	Four year rotation (Corn, corn, oats & seeding of clover, clover)	Four year rotation (Corn, corn, oats & seeding of clover, clover)

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June 8 & 9, 1939
Clarinda, Iowa
Sheet 3 of 3 Sheets

STORM NO.
12/18/39
Plot by L.H.S. date 12/18/39 checked by L.H.S. date 12/18/39
Computations by L.H.S. date Fall, '39 checked by J.W.D. date Nov., '39

June 10, 1939

Rainfall and Runoff in inches
Rainfall Rate in inches per hour

5:00A

8:00A

5:00A

8:00A

9:00A

10:00A

Elapse of time
as shown

Rainfall Rate in in./hr. (Col. 1 & 5 & Tarkio Creek Gage #2)

Accumulated rainfall in inches
(Col. 1 & 3 & Tarkio Creek Gage #2)

Accumulated runoff Plot V = 0.163 inches

Maximum Precipitation (inches)

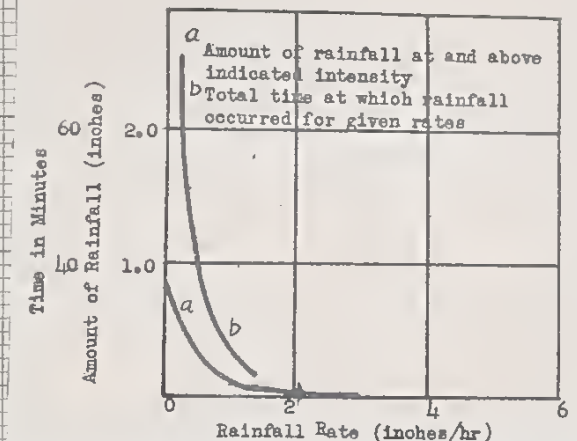
Maximum Rainfall (in inches)
for a given period of time

Duration (hours)

Watershed Plot V

June 10, 1939
Clarinda, Iowa
Sheet 1 of 3 Sheets

(1)	(2)	(3)	(4)	(5)	(6)
(time)	(min)	(in)	(in)	(in/hr)	Int. on Plot V Col. 5 x .87
3:05AM					
3:25	20	.12	.12	.36	.36
3:30	5	.23	.11	1.32	1.32
3:40	10	.34	.11	.66	.66
3:50	10	.44	.10	.60	.60
4:10	20	.52	.08	.24	.24
4:15	5	.55	.03	.36	.36
8:13A					
8:15	2	.65	.10	3.00	3.00
8:25	10	.77	.12	.72	.72
8:30	5	.81	.04	.48	.48
8:35	5	.84	.03	.36	.36
8:45	10	.87	.03	.38	.38
					.87*

*Precipitation on Watershed Plot V determined
by Horton's method.

Plot V

Area (acres) 3.25

Preceding Rain (in.) 2.26

date began May 8

duration (hours) 4 Hrs 5 Min.

Temperature (max. & min.) 74 & 51

Soil (major type) Marshall silt loam

percent of area 7.69

Slope, average (percent) 7.69

maximum

Cover, type Corn

height (ft.) 8 inches

date last cultivated May 18 planted corn

Soil loss (tons per acre) 0.036

Remarks Four year rotation
(Corn, corn, oats &
seeding of clover,
clover)

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STORM NO.

Plot by L.H.S. date 1/22/40 checked by L.H.S. date

Computations by L.H.S. date Fall, '39 checked by J.W.D. date Fall, '39

June 10, 1939

3:00 A

4:00A

5:00A

6:00A

7:00A

(1) (t) (time)	(2) (min)	(3) (in)	(4) (in)	(5) (in/hr)	(6) Int. of Plot W Col. 5 x .86 .87	(7) Int. of Plot X Col. 5 x .85 .87
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Elapse of time as shown

3:05AM						
3:25	20	.12	.12	.36	.36	.35
3:30	5	.23	.11	1.32	1.31	1.29
3:40	10	.34	.11	.66	.65	.64
3:50	10	.44	.10	.60	.59	.59
4:10	20	.52	.08	.24	.24	.23
4:15	5	.55	.03	.36	.36	.35
8:13A						
8:15	2	.65	.10	3.00	2.96	2.93
8:25	10	.77	.12	.72	.71	.70
8:30	5	.81	.04	.48	.47	.47
8:35	5	.84	.03	.36	.36	.35
8:45	10	.87	.03	.18	.18	.18
					.86*	.85*

*Precipitation on Watershed Plots W & X determined by Horton's method.

Rainfall and Runoff in inches
Rainfall Rate in inches per hour

Rainfall Rate in in./hr. (Col. 1 & 5 & Tarkio Creek Gage #2)

Accumulated rainfall in inches (Col. 1 & 3 & Tarkio Creek Gage #2)

Accumulated Runoff Plot W = 0.396 inches

Accumulated Runoff Plot X = 0.026 inches

June 10, 1939

3:00 A

4:00A

5:00A

6:00A

7:00A

8:00A

9:00A

Watershed Plot W

	Plot W	Plot X
Area (acres).....	1.97	1.97
Preceding Rain (in.).....	2.26	2.26
date began.....	May 8	May 8
duration (hours).....	4 Hrs 5 Min.	4 Hrs 5 Min.
Temperature (max. & min.).....	74 & 51	74 & 51
Soil (major type).....	Marshall silt loam	Marshall silt loam
percent of area.....		
Slope, average (percent).....	7.76	9.00
maximum.....		
Cover, type.....	Corn	Corn
height (ft.).....	8 inches	8 inches
date last cultivated.....	Planted corn May 18	Planted corn May 18
Soil loss (tons per acre).....	0.368	0.010
Remarks.....	Rotation (Corn, corn, corn, oats)	Rotation (Corn, corn, corn, oats)

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STORM NO.

Plot by L.H.S. date 1/23/40 checked by L.H.S. date
Computations by L.H.S. date Fall, '39 checked by J.A.D. date Fall, '39

June 10, 1939
Clarinda, Iowa
Sheet 2 of 3 Sheets

Q = Discharge in cu. ft. per sec.

Watershed Plot W

Watershed Plot X



June 10, 1939

Elapse of time
as shown

Rainfall and
Runoff in inches
Rainfall Rate in inches per hour

(1) (Time)	(2) (min)	(3) (in)	(4) (in)	(5) (in/hr)	(6) Int. on Plot Y Col. 5 x $\frac{.85}{.87}$	(7) Int. on Plot Z Col. 5 x $\frac{.86}{.87}$
3:00AM						
3:15	15	.08	.08	.32	.31	.32
3:20	5	.10	.02	.24	.23	.24
3:25	5	.21	.11	1.32	1.29	1.31
3:35	10	.24	.13	.78	.76	.77
3:45	10	.15	.11	.66	.65	.65
3:50	5	.49	.04	.48	.47	.47
4:00	10	.53	.04	.24	.23	.24
4:15	15	.57	.04	.16	.16	.16
8:13						
8:15	2	.66	.09	2.70	2.64	2.68
8:20	5	.77	.11	1.32	1.29	1.31
8:25	5	.61	.04	.48	.47	.47
8:30	5	.61	.00	.00	.00	.00
8:45	15	.87	.06	.24	.23	.24
					<u>.85*</u>	<u>.86*</u>

*Precipitation on Watershed Plots Y & Z determined by Horton's method.

Rainfall rate in inches/hr (Col. 1 & 5 & Plum Creek Gage #2)

Accumulated rainfall in inches (Col. 1 & 3 & Plum Creek Gage #2)

Accumulated runoff Plot Y = 0.244 inches

Accumulated runoff Plot Z = 0.037 inches

Elapse of time
as shown

Watershed Plot Y

Watershed Plot Y

Watershed Plot Z

	Plot Y	Plot Z
Area (acres)	3.25	3.12
Preceding Rain (in.)	2.32	2.32
date began	June 8 & 9	June 8 & 9
duration (hours)	4 Hrs 12 Min.	4 Hrs 12 Min.
Temperature (max. & min.)	74 & 51	74 & 51
Soil (major type)	Marshall silt loam	Marshall silt loam
percent of area		
Slope, average (percent)	8.32	9.98
maximum		
Cover, type	corn	Corn
height (ft.)	8 inches	8 inches
date last cultivated	Cultivated June 7	Cultivated June 6
Soil loss (tons per acre)	0.198	0.014
Remarks	Rotation (Corn, corn, oats, clover)	Rotation (Corn, corn, oats, clover)

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STORM NO.

Plot by L.H.S. date 1/24/40 checked by L.H.S. date
Computations by L.H.S. date Fall, '39 by J.W.D. date Fall, '39

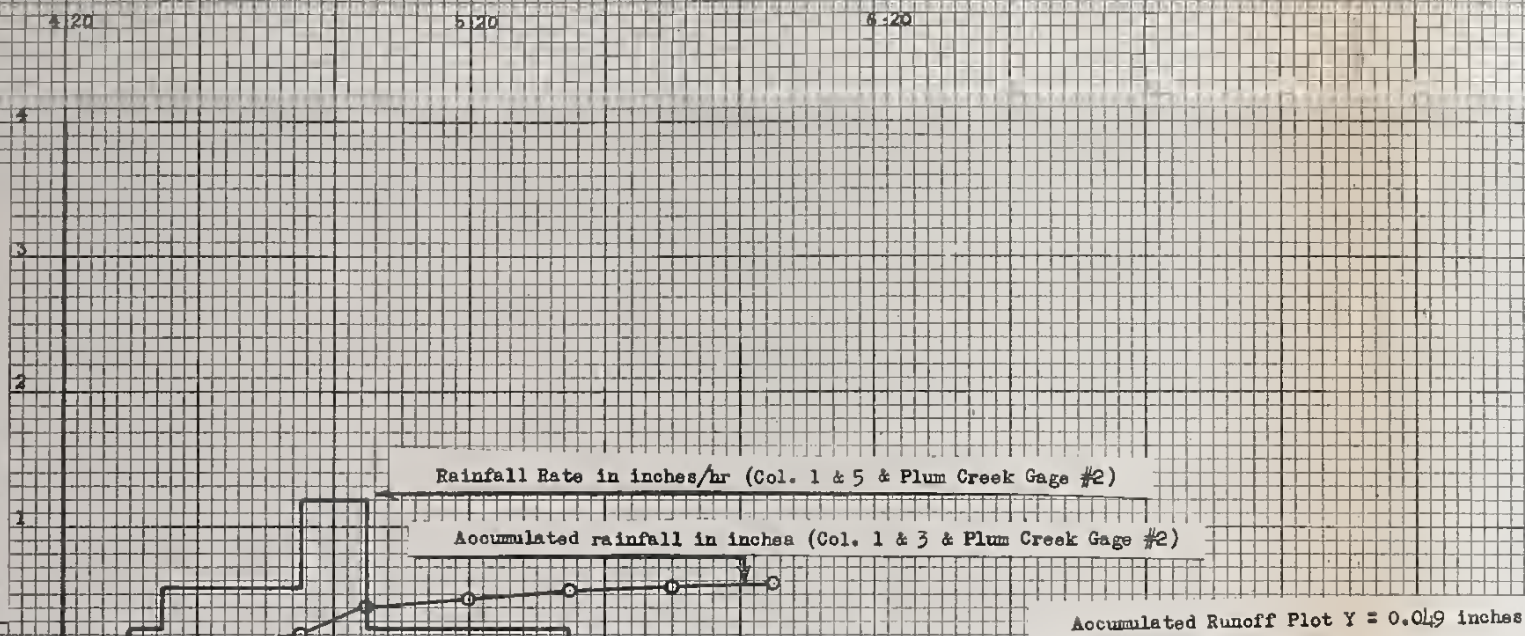
Sheet 3 of 3 Sheets

June 10, 1939
Clarinda, Iowa

Watershed Plot Y

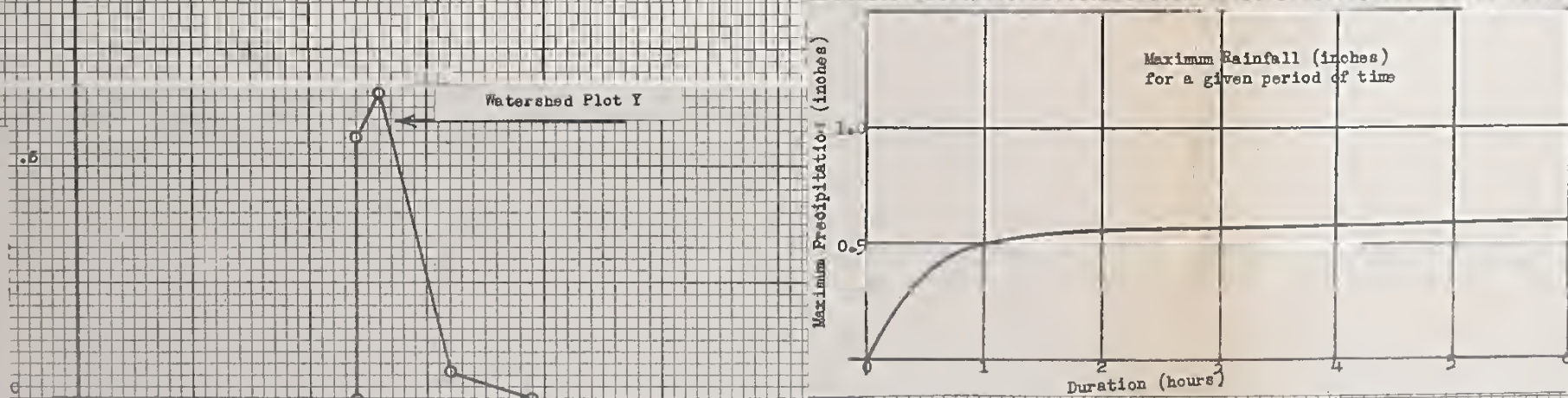
June 13, 1939

Rainfall and Runoff in inches
Rainfall Rate in inches per hour



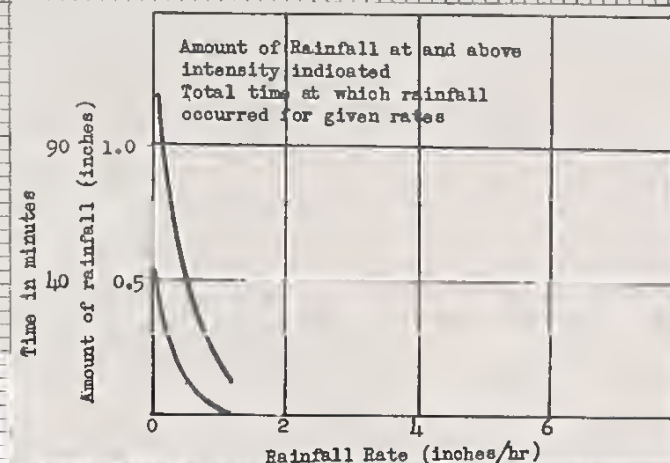
June 13, 1939

Q = Discharge in cu. ft. per sec.



(1) (time)	(2) (min)	(3) (in)	(4) (in)	(5) (in/hr)	(6) Int. on Plot Y Col. 5 x $\frac{.58}{.65}$
4:30AM					
4:35	5	.02	.02	.24	.21
4:55	20	.20	.18	.54	.48
5:05	10	.40	.20	1.20	1.07
5:20	15	.46	.06	.24	.21
5:35	15	.52	.06	.24	.21
5:50	15	.56	.04	.16	.14
6:05	15	.58	.02	.08	.07
					<u>.65</u>

Precipitation Plot Y determined by Horton's method.



Plot Y	
Area (acres)	3.25
Preceding Rain (in.)	0.30
date begun	June 10
duration (hours)	0 Hrs 30 Min.
Temperatures (max. & min.)	71 & 56
Soil (major type)	Marshall silt loam
percent of area	
Slope, average (percent)	8.32
maximum	
Cover, type	Corn
height (ft.)	14 inches
date last cultivated	June 7, cultivated
Soil loss (tons per acre)	0.052
Remarks	Rotation (Corn, corn, oats, clover)

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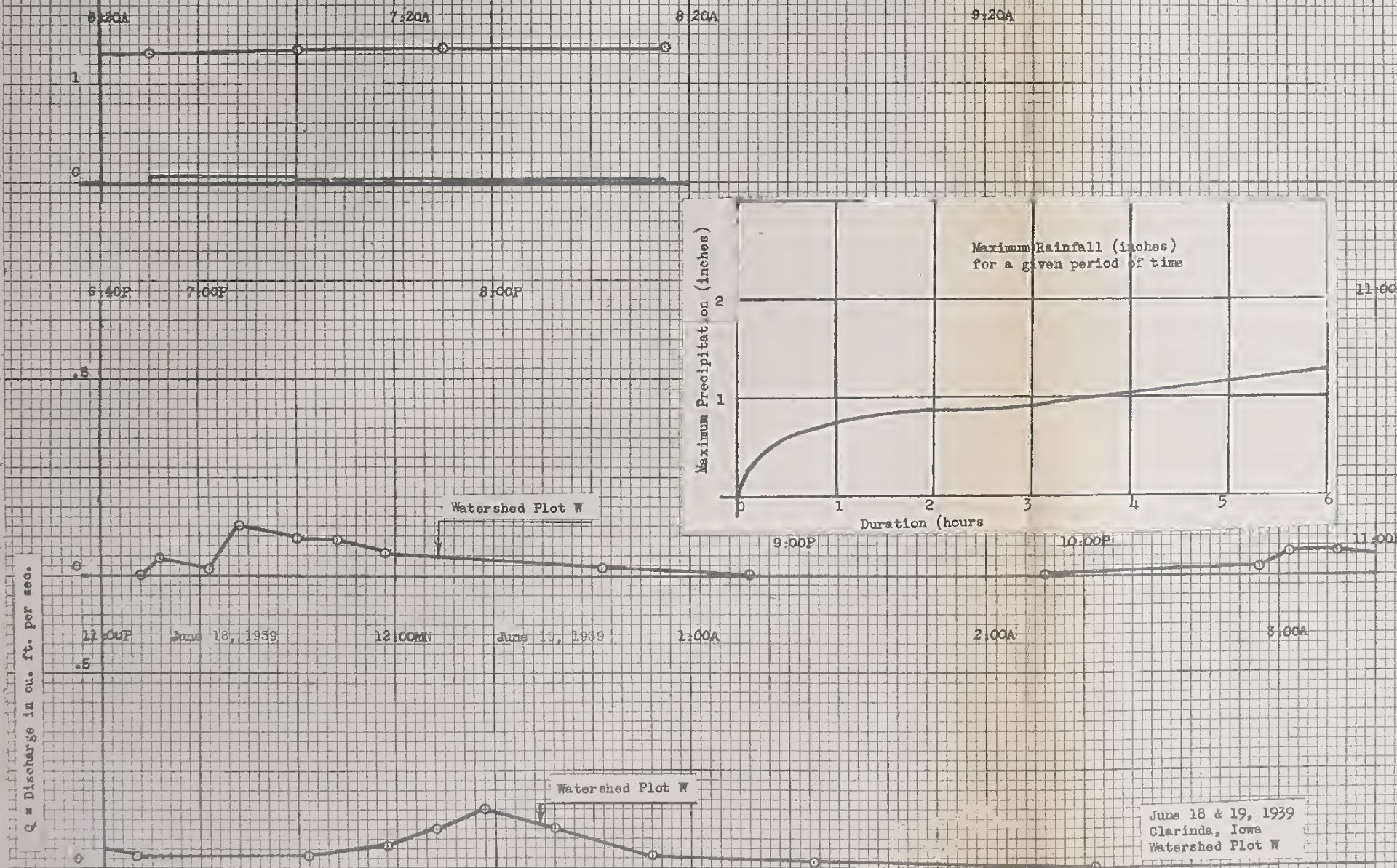
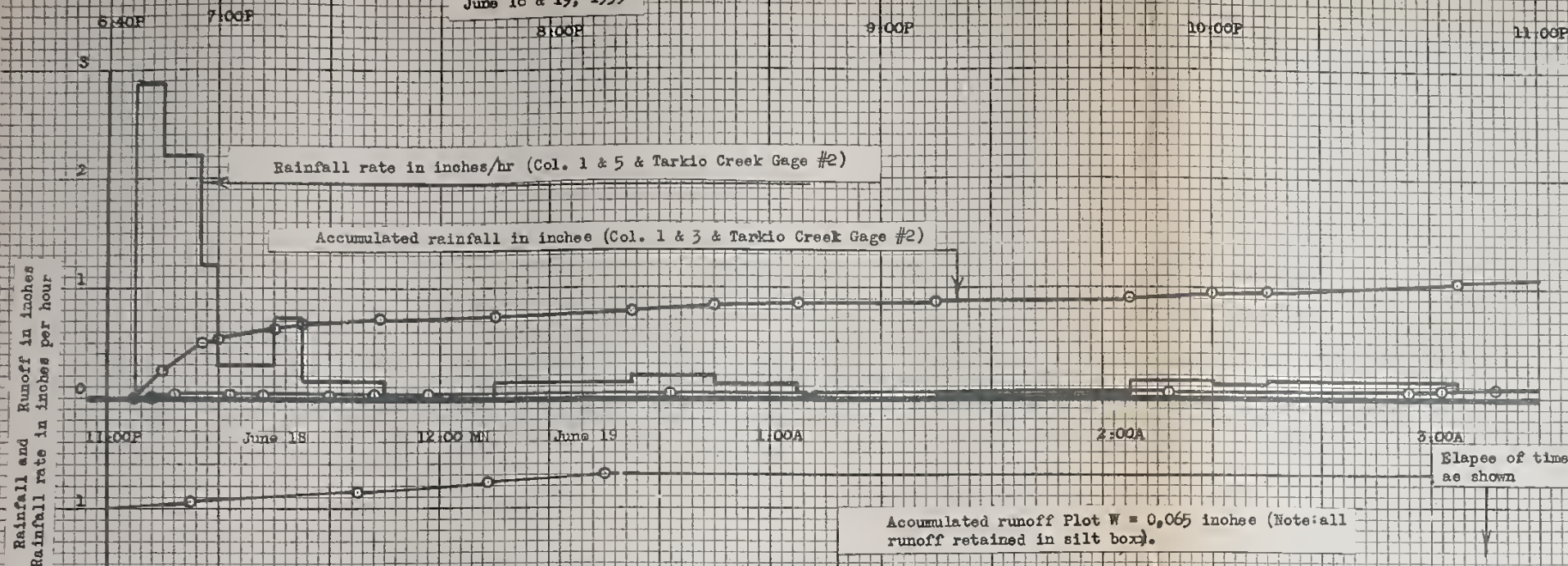
June 13, 1939
Clarinda, Iowa
Watershed Plot Y

Sheet 1 of 1 Sheet

STORM No. _____

Plot by L.H.S. date $\frac{1}{24}/40$ checked by L.H.S. date _____
Computations by L.H.S. date Fall '39 checked by J.W.D. date Fall '39

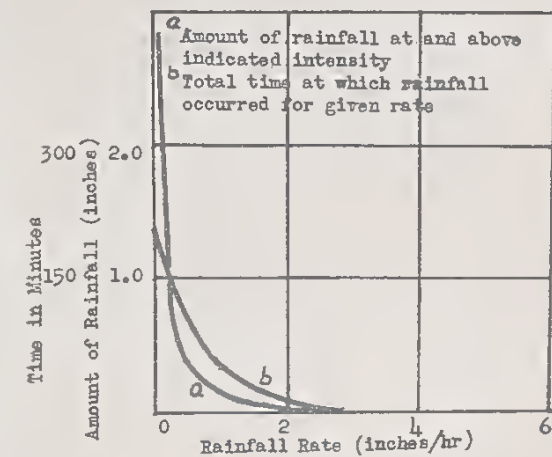
June 18 & 19, 1939



(1) (time)	(2) (min)	(3) (in)	(4) (in)	(5) (in/hr)	(6) Int. on Plot W Col. 5 x 1.30
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6:45PM					
6:50	5	.24	.24	2.88	2.73
6:57	7	.50	.26	2.21	2.09
7:00	3	.56	.06	1.20	1.14
7:10	10	.61	.05	.30	.29
7:15	5	.67	.06	.72	.68
7:30	15	.72	.05	.20	.19
7:50	20	.72	.00	.00	.00
8:15	25	.78	.06	.14	.13
8:30	15	.83	.05	.20	.19
8:45	15	.86	.03	.12	.11
9:10	25	.88	.02	.05	.05
9:45	35	.90	.02	.03	.03
10:00	15	.94	.04	.16	.15
10:10	10	.96	.02	.12	.11
10:45	35	1.04	.08	.14	.13
11:15	30	1.08	.04	.08	.08
11:45	30	1.14	.06	.12	.11
12:10	25	1.22	.08	.18	.17
12:30A	20	1.30	.08	.24	.23
6:30 A					
7:00	30	1.33	.03	.06	.06
7:30	30	1.35	.02	.04	.04
8:15	15	1.37	.02	.02	.02
					1.30*

Precipitation on Watershed Plot W determined by Horton's method.



Plot W

Area (acres) 1.97

Preceding Rain (in.) .63

date begun June 13

duration (hours) 1 Hr 30 Min.

Temperature (max. & min.) 69 & 63

Soil (major type) Marshall silt loam

percent of area

Slope, average (percent) 7.76

maximum

Cover, type Corn

height (ft.) 20 inches

date last cultivated Cultivated June 12

Soil loss (tons per acre) 0.034

Remarks Rotation (Corn, corn, corn, oats)

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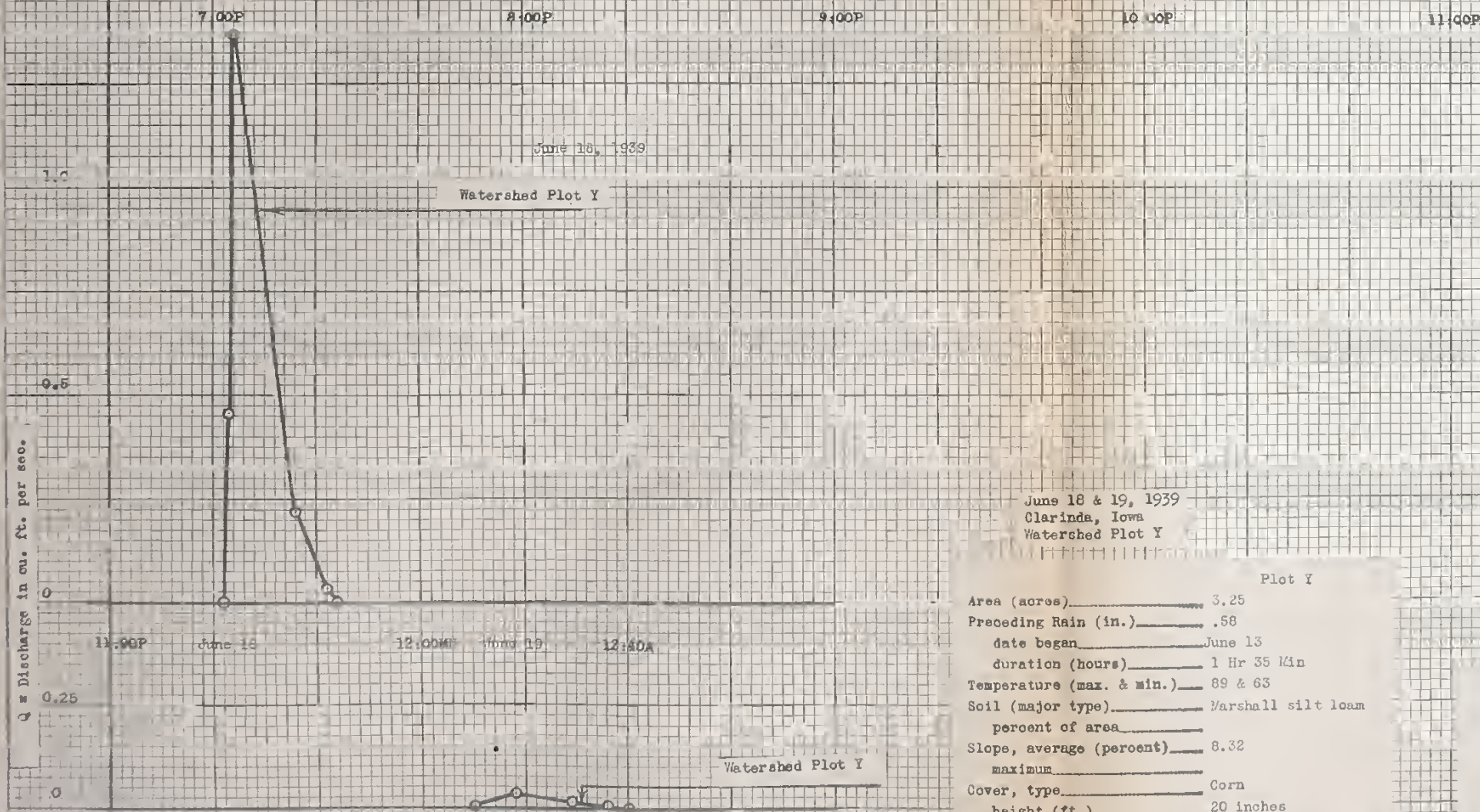
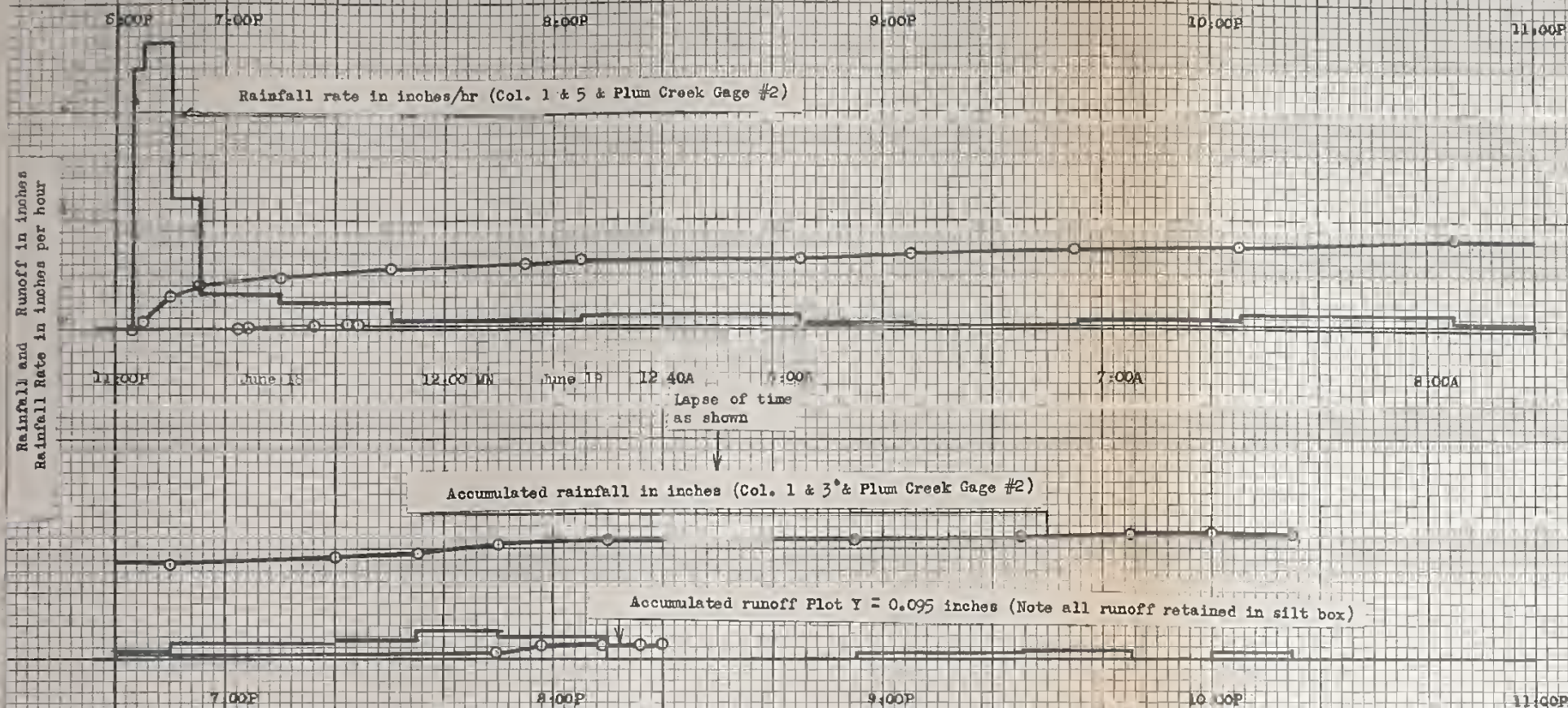
June 18 & 19, 1939
Clarinda, Iowa
Watershed Plot W

Sheet 1 of 2 Sheets

STORM NO. 1/25/40

Plot by H.H.S. date 1/25/40 checked by L.H.S. date 2-11-40

June 18 & 19, 1939



(1) (time)	(2) (min)	(3) (in)	(4) (in)	(5) (in/hr)	(6) Int. Plot Y Col. 5 x 1.14 1.13
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6:13PM					
6:15	2	.08	.08	2.40	2.42
6:50	5	.30	.22	2.64	2.66
6:55	5	.40	.10	1.20	1.21
7:10	15	.48	.08	.32	.32
7:30	20	.56	.08	.24	.24
8:05	35	.60	.04	.07	.07
8:25	20	.64	.04	.12	.12
8:45	20	.68	.04	.12	.12
9:05	20	.70	.02	.06	.06
9:35	30	.72	.02	.04	.04
10:05	30	.76	.04	.08	.08
10:15	10	.78	.02	.12	.12
10:35	20	.82	.04	.12	.12
10:45	10	.84	.02	.12	.12
11:10	25	.86	.02	.05	.05
11:30	20	.90	.04	.12	.12
11:40	10	.92	.02	.12	.12
11:55	15	.96	.04	.16	.16
12:10	15	1.02	.06	.24	.24
12:30AM	20	1.08	.06	.18	.18
6:15					
6:45	30	1.10	.02	.04	.04
7:05	20	1.12	.02	.06	.06
7:20	15	1.12	.00	.00	.00
7:35	15	1.13	.01	.04	.04
					1.14*

*Precipitation on Plot Y watershed determined by Horton's method.

June 18 & 19, 1939
Clarinda, Iowa
Watershed Plot Y

Plot Y

Area (acres) 3.25

Preceding Rain (in.) .58

date began June 13

duration (hours) 1 Hr 35 Min

Temperature (max. & min.) 89 & 63

Soil (major type) Marshall silt loam

percent of area

Slope, average (percent) 8.32

maximum

Cover, type Corn

height (ft.) 20 inches

date last cultivated Cultivated June 7

Soil loss (tons per acre) 0.079

Rotation (Corn, corn, oats, clover)

Sheet 2 of 2 Sheets

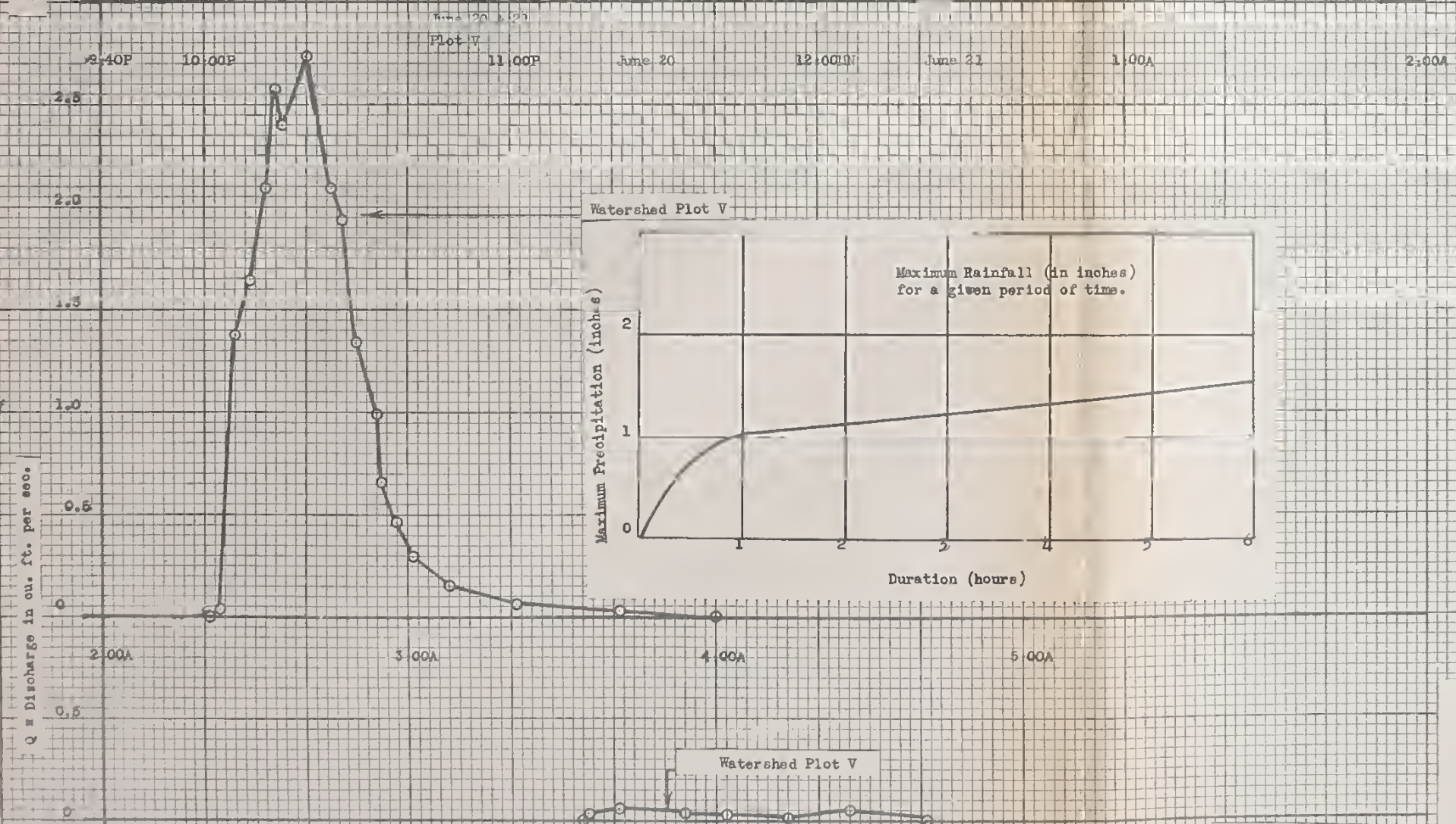
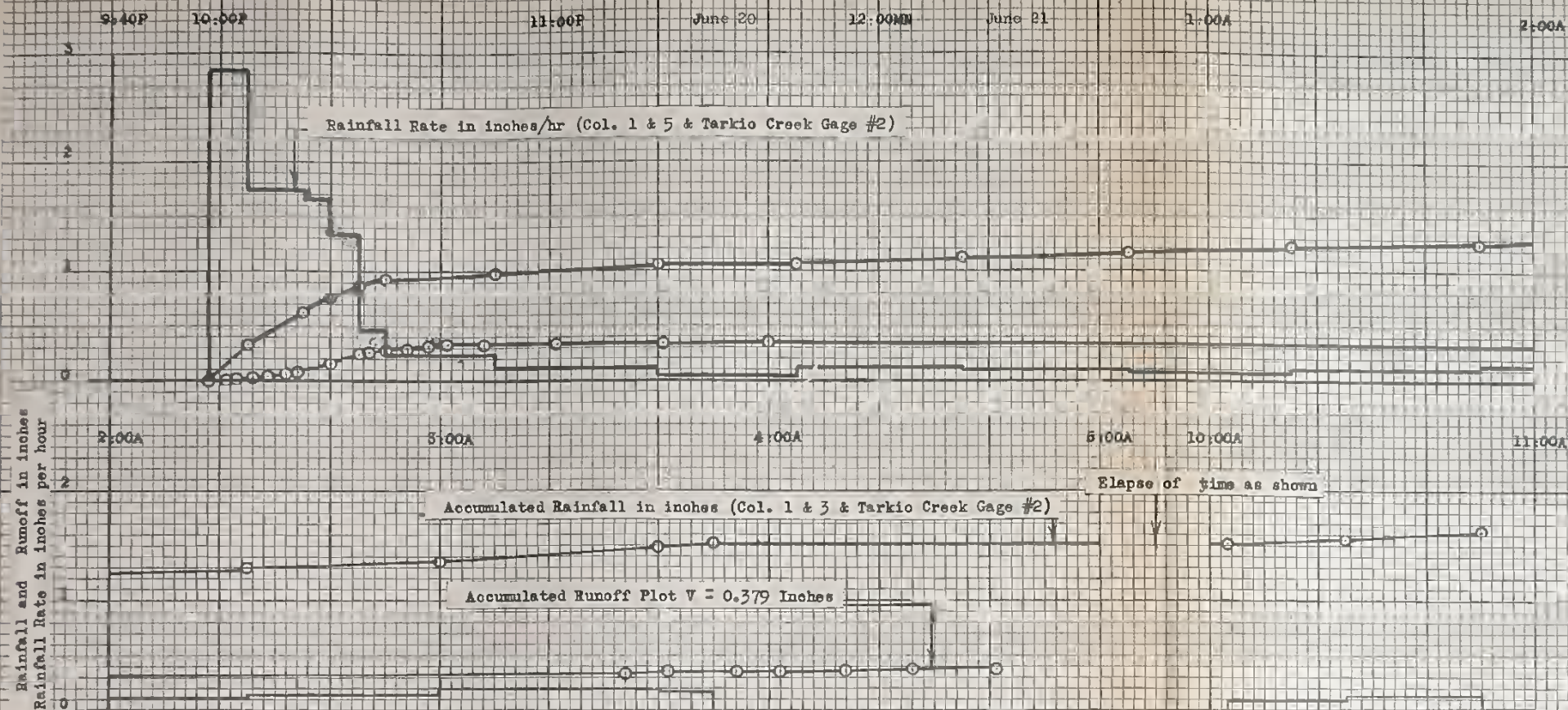
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STORM NO.

Plot by L.H.S. date 1/26/40 checked by L.H.S. date

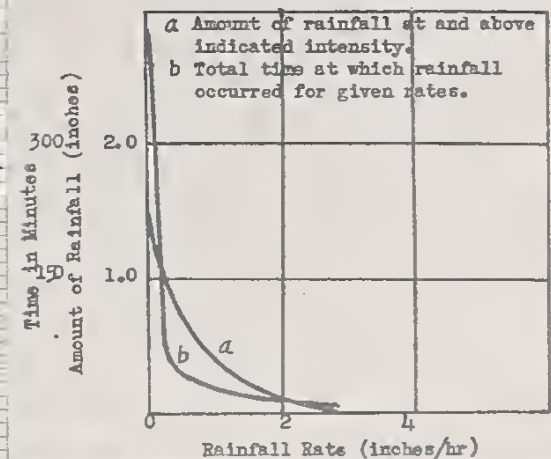
Computations by L.H.S. date Fall '39 checked by J.W.D. date Fall '39

June 20 & 21, 1939



(1) (time)	(2) (min)	(3) (in)	(4) (in)	(5) (in/hr)	(6) Int. on Plot V Col. 5 x 1.52 1.61
9:58PM					
10:05	7	.33	.33	2.63	2.67
10:15	10	.62	.29	1.74	1.64
10:20	5	.76	.14	1.68	1.59
10:25	5	.87	.11	1.32	1.25
10:30	5	.91	.04	.48	.45
10:50	20	.99	.08	.24	.23
11:20	30	1.04	.05	.10	.09
11:45	25	1.06	.02	.05	.05
12:15A	30	1.12	.06	.12	.11
12:45	30	1.17	.05	.10	.09
1:15	30	1.21	.04	.08	.08
1:50	35	1.25	.04	.10	.09
2:25	35	1.30	.05	.12	.11
3:00	35	1.36	.06	.14	.13
3:40	40	1.49	.13	.20	.19
3:50A	10	1.52	.03	.18	.17
10:03A					
10:25	22	1.55	.03	.08	.08
10:50	25	1.61	.06	.13	.12
					1.52

*Precipitation on Watershed Plot V determined by Horton's method.



Plot V

Area (acres) 3.25

Preceding Rain (in.) .07

date began June 19

duration (hours) 1 Hr 45 Min

Temperature (max. & min.) 77 & 62

Soil (major type) Marshall silt loam

percent of area

Slope, average (percent) 7.69

maximum

Cover, type Corn

Height (ft.) 22 inches

date last cultivated Cultivated June 12

Soil loss (tons per acre) 0.412

Remarks Rotation (Corn, corn, oats, clover)

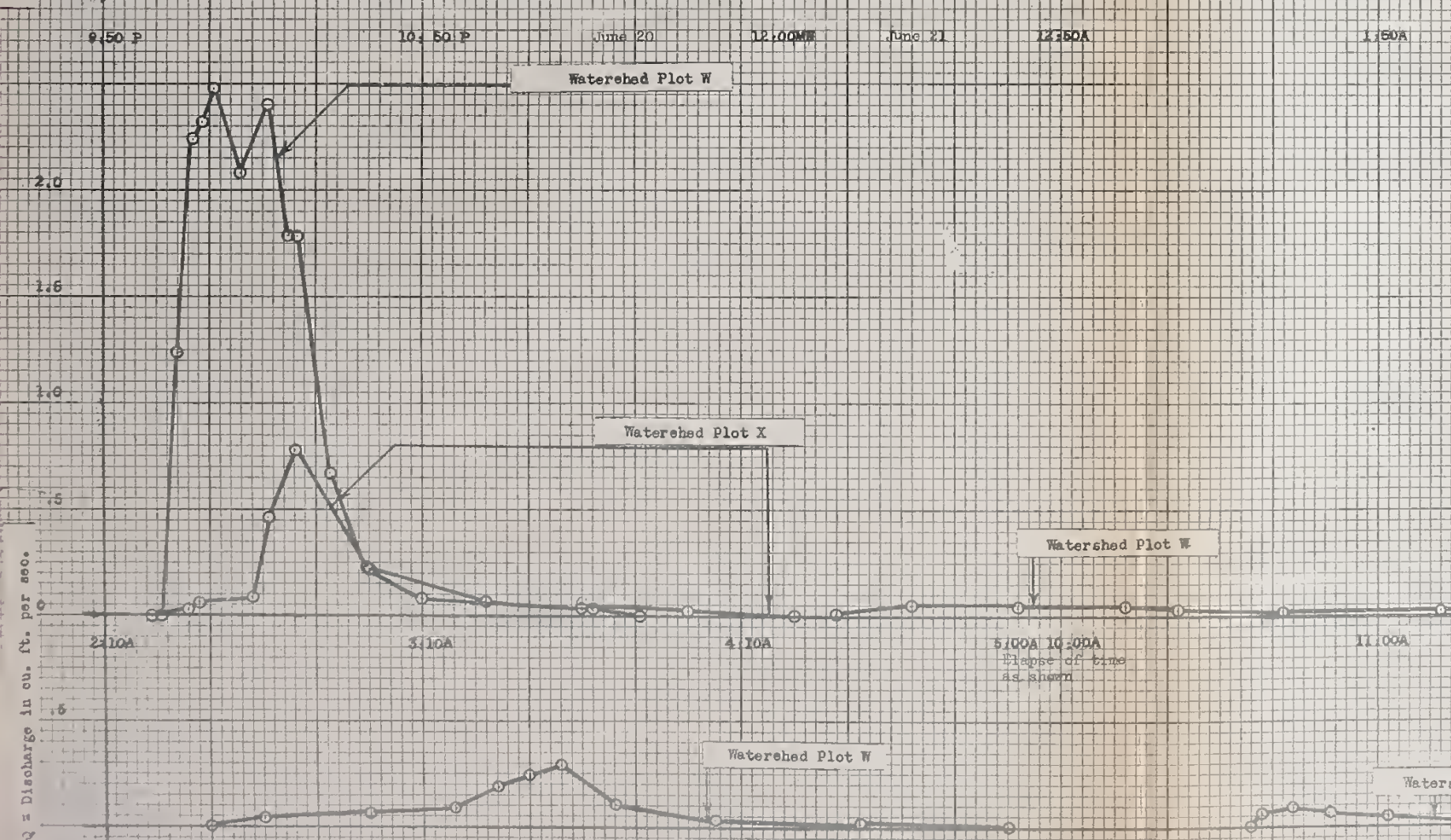
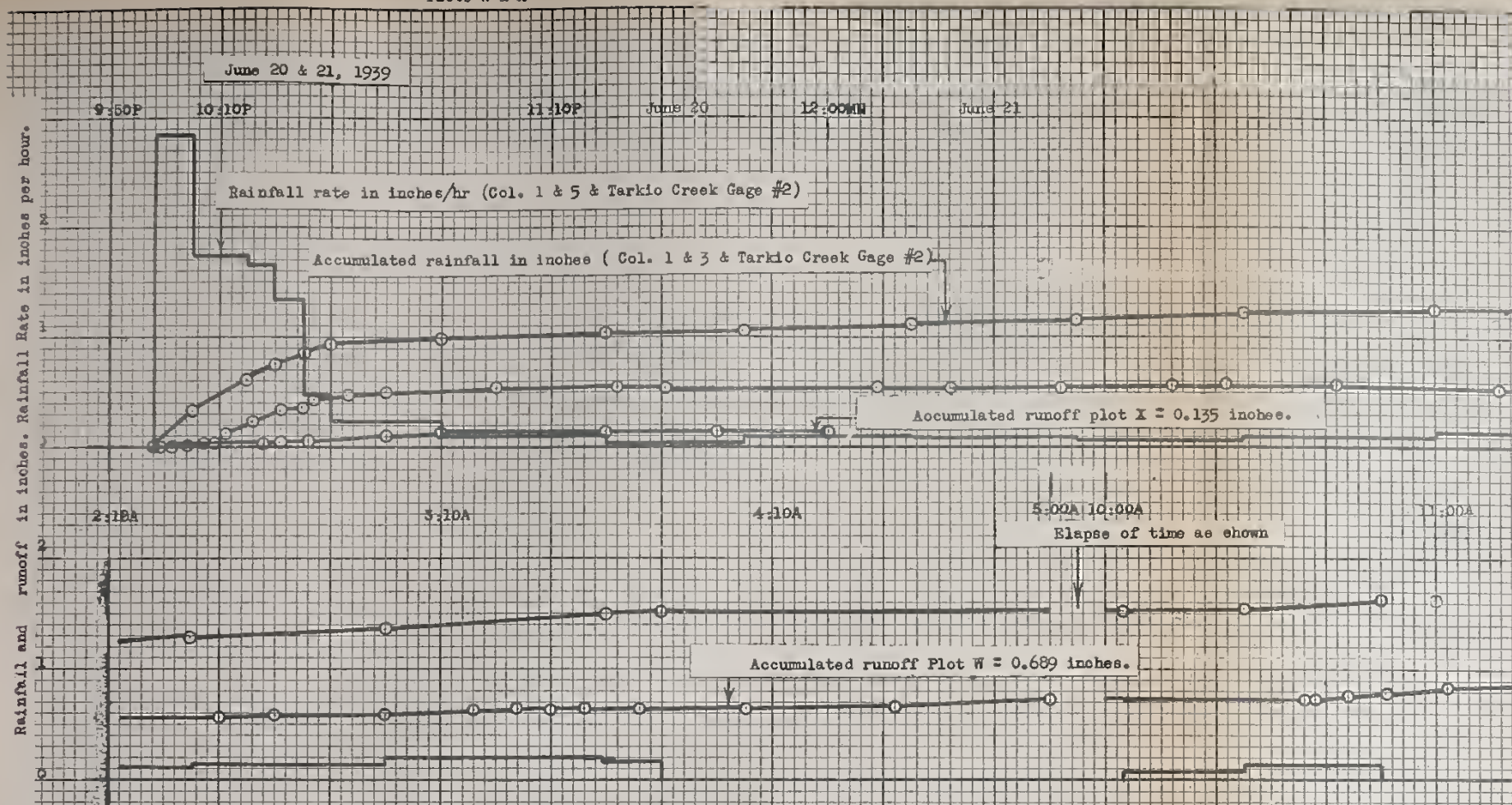
UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
H. H. BENNETT, CHIEF.
DIVISION OF RESEARCH, W. C. LOWDERMILK, CHIEF

STORM NO. _____

Plot by L.H.S. date 26/40 checked by L.H.S. date _____

Computations by L.H.S. date Fall '39 checked by L.H.S. date Fall '39

June 20 & 21, 1939
Clarinda, Iowa
Sheet 1 of 3 Sheets



(1) (time)	(2) (min)	(3) (in)	(4) (in)	(5) (in/hr)	(6) Int. on Plot W Col. 5 x 1.58 1.61	(7) Int. Plot X Col. 5 x 1.63 1.61
9:58PM						
10:05	7	.33	.33	2.83	2.78	2.86
10:15	10	.62	.29	1.74	1.71	1.76
10:20	5	.76	.14	1.68	1.65	1.70
10:25	5	.87	.11	1.32	1.30	1.33
10:30	5	.91	.04	.48	.47	.49
10:50	20	.99	.08	.24	.24	.24
11:20	30	1.04	.05	.10	.10	.10
11:45	25	1.06	.02	.05	.05	.05
12:15A	30	1.12	.06	.12	.12	.12
12:15	30	1.17	.05	.10	.10	.10
1:15	30	1.21	.04	.08	.08	.08
1:50	35	1.25	.04	.10	.10	.10
2:25	35	1.30	.05	.12	.12	.12
3:00	35	1.36	.06	.14	.14	.14
3:40	40	1.49	.13	.20	.20	.20
3:50A	10	1.52	.03	.18	.18	.18
10:03A						
10:25	22	1.55	.03	.08	.08	.08
10:50	25	1.61	.06	.13	.13	.13
					1.58*	1.63*

*Precipitation on Watershed Plots W & X determined by Horton's method.

	Plot W	Plot X
Area (acres).....	1.97	1.97
Preceding Rain (in.).....	.07	.07
date began.....	June 19	June 19
duration (hours).....	1 Hr 45 Min.	1 Hr 45 Min.
Temperature (max. & min.).....	77 & 62	77 & 62
Soil (major type).....	Marshall silt loam	Marshall silt loam
percent of area.....		
Slope, average (percent).....	7.76	9.00
maximum.....		
Cover, type.....	Corn	Corn
height (ft.).....	22 inches	22 inches
date last cultivated.....	Cultivated June 12	Cultivated June 12
Soil loss (tone per acre).....	2.244	0.044
Remarks.....	Rotation (Corn, corn, corn, oats)	Rotation (Corn, corn, corn, oats)

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STORM NO.

Plot by L.H.S. date 26/40 checked by L.H.S. date
Computations by L.H.S. date Fall '39 checked by J.W.D. date Fall '39

June 20 & 21, 1939
Clarinda, Iowa
Sheet 8 of 3 Sheets

Watershed Plots Y & Z

June 20 & 21, 1939

Rainfall and Runoff in inches
Rainfall rate in inches per hour

Q = Discharge in cu. ft. per sec.

10:00P

11:00P

June 20

12:00AM

June 21

1:00A

1:40A

Rainfall Rate in inches/hr (Col. 1 & 5 & Plum Creek Gage #2)

Accumulated rainfall in inches (Col. 1 & 3 & Plum Creek Gage #2)

Accumulated Runoff Plot X = 0.132 inches

Elapse of time as shown

Accumulated runoff Plot Y = 0.418 inches

10:00P

11:00P

June 20

12:00AM

June 21

1:00A

Watershed Plot Y

Watershed Plot Z

Area (acres)	Plot Y 3.25	Plot Z 3.12
Preceding Rain (in.)	.05	.05
date began	June 19	June 19
duration (hours)	1 Hr 20 Min.	1 Hr 20 Min.
Temperature (max. & min.)	77 & 62	77 & 62
Soil (major type)	Marshall silt loam	Marshall silt loam
percent of area		
Slope, average (percent)	8.32	9.98
maximum		
Cover, type	Corn	Corn
height (ft.)	20 inches	22 inches
date last cultivated	June 7 cultivated	June 8 cultivated
Soil loss (tons per acre)	0.732	0.034
Remarks	Rotation (Corn, corn, oats, clover)	Rotation (Corn, corn, oats, clover)

Watershed Plot Y

June 20 & 21, 1939
Clarinda, Iowa
Sheet 3 of 3 Sheets

(1) (time)	(2) (min)	(3) (in.)	(4) (in)	(5) (in/hr)	(6) Int. on Plot Y Col. 5 x 1.62 1.53	(7) Int. on Plot Z Col. 5 x 1.51 1.53
9:53PM						
9:55	2	.04	.04	1.20	1.27	1.20
10:00	5	.25	.21	2.52	2.67	2.49
10:05	5	.40	.15	1.80	1.91	1.78
10:10	5	.57	.17	2.04	2.16	2.02
10:15	5	.67	.10	1.20	1.27	1.19
10:20	5	.81	.14	1.68	1.78	1.66
10:25	5	.87	.06	.72	.76	.71
10:40	15	.93	.06	.24	.25	.24
10:55	15	.97	.04	.16	.17	.16
11:10	15	.99	.02	.08	.08	.08
11:30	20	1.01	.02	.06	.06	.06
11:50	20	1.03	.02	.06	.06	.06
12:05	15	1.07	.04	.16	.17	.16
12:15	10	1.09	.02	.12	.13	.12
12:25	10	1.09	.00	.00	.00	.00
12:30	5	1.11	.02	.24	.25	.24
12:40	10	1.13	.02	.12	.13	.12
1:05	25	1.17	.04	.10	.11	.10
1:25	20	1.19	.02	.06	.06	.06
1:45	20	1.21	.02	.06	.06	.06
2:00	15	1.23	.02	.08	.08	.08
2:15	15	1.23	.00	.00	.00	.00
2:35	20	1.27	.04	.12	.13	.12
3:00	25	1.31	.04	.10	.11	.10
3:10	10	1.33	.02	.12	.13	.12
3:25	15	1.39	.06	.24	.25	.24
3:40	15	1.43	.04	.16	.17	.16
3:50A	10	1.45	.02	.12	.13	.12
10:00A						
10:10	10	1.47	.02	.12	.13	.12
10:30	20	1.49	.02	.06	.06	.06
10:45A	15	1.53	.04	.16	.17	.16
					1.62*	1.51*

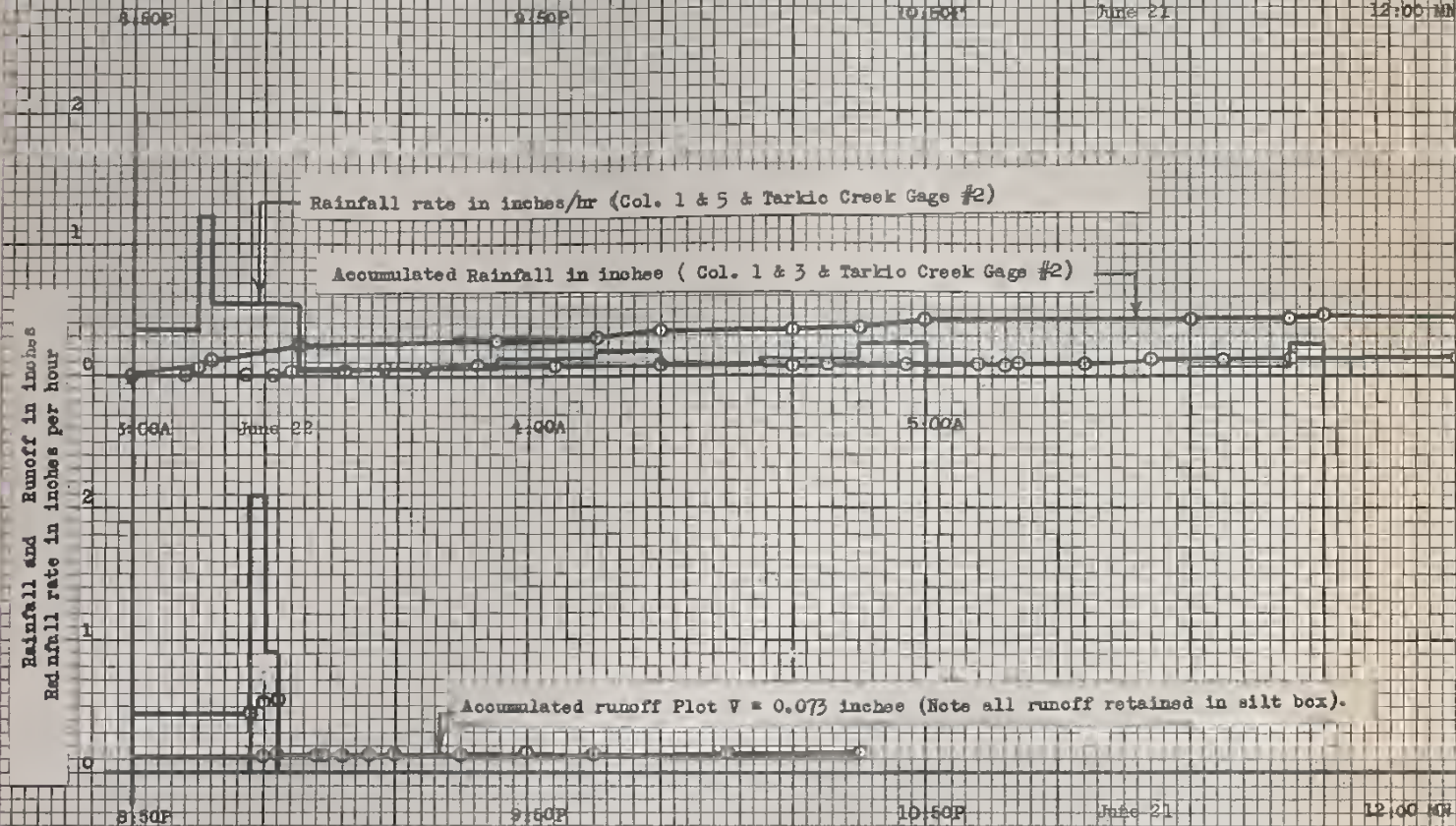
*precipitation on Watershed Plots Y & Z determined by Horton's method.

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STORM NO. _____

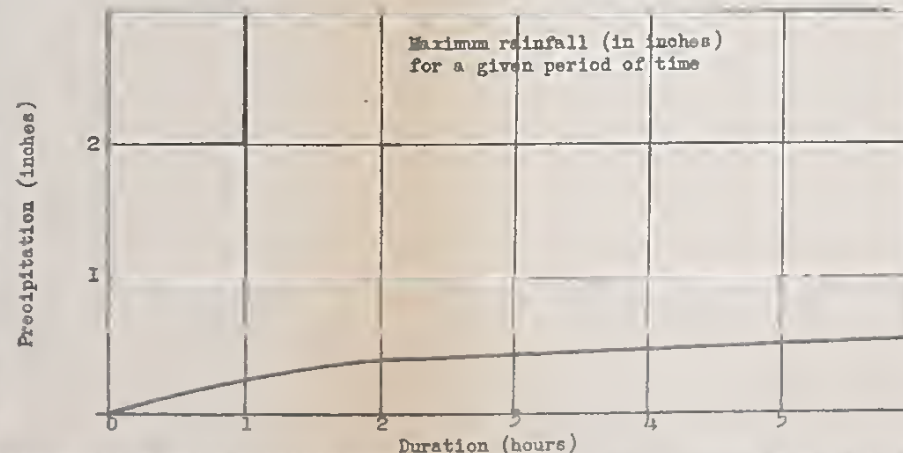
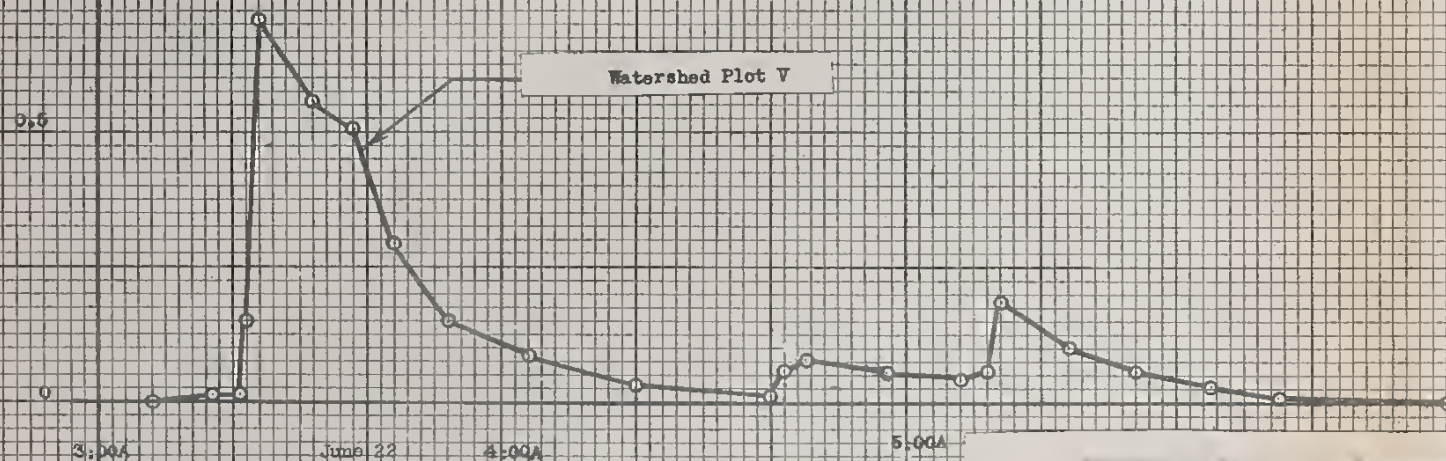
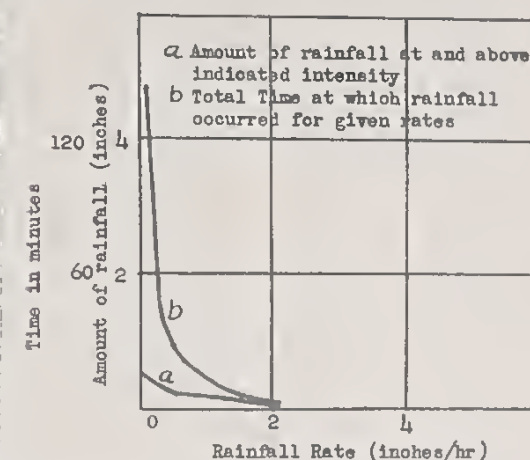
Plot by L.H.S. date 1/25/40 checked by L.H.S. date _____
Computations by L.H.S. Fall '39 checked by J.W.D. date Fall '39.

June 21 & 22, 1939



(1) (time)	(2) (min)	(3) (in)	(4) (in)	(5) (in/hr)	(6) Int. on Plot V Col. 5 x $\frac{.64}{.55}$
8:50PM					
9:00	10	.06	.06	.36	.42
9:02	2	.10	.04	1.20	1.40
9:15	13	.22	.12	.55	.64
9:45	30	.26	.04	.08	.09
10:00	15	.29	.03	.12	.14
10:10	10	.32	.03	.18	.21
10:25	15	.34	.02	.08	.09
10:40	15	.37	.03	.12	.14
10:50	10	.41	.04	.24	.28
11:30	40	.41	.00	.00	.00
11:45	15	.43	.02	.08	.09
11:50P	5	.45	.02	.24	.28
3:18A					
3:20A	2	.52	.07	2.10	2.44
3:22	2	.55	.03	.90	1.05
					.64

Precipitation on Plot V Watershed determined by Horton's method.



Plot V

Area (acres) 3.25

Preceding Rain (in.) .09

date began June 21

duration (hours) 0 Hrs 47 min.

Temperature (max. & min.) 74 & 62

Soil (major type) Marshall silt loam

percent of area

Slope, average (percent) 7.69

maximum

Cover, type Corn

height (ft.) 24 inches

date last cultivated June 12 cultivated

Soil loss (tons per acre) 0.025

Remarks Rotation (Corn, corn, oats, clover)

Note: All runoff retained in silt box.

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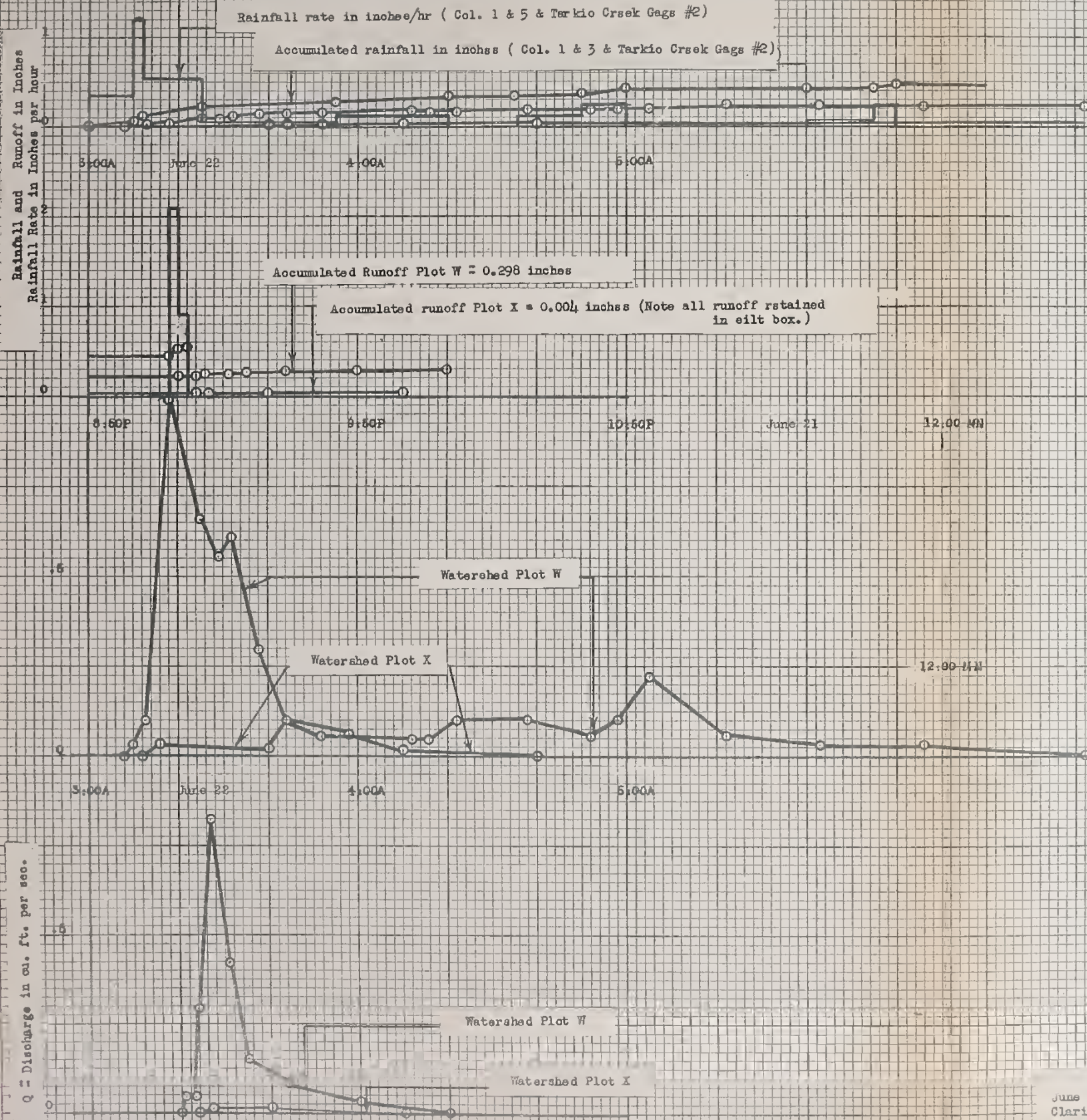
Plot by L.H.S. date 1/29/40 checked by L.H.S. date _____
Computations by L.H.S. date Fall '39 checked by J.W.D. date Fall '39

Sheet 1 of 3 Sheets

June 21 & 22, 1939
Clarinda, Iowa
Watershed Plot V

Watershed Plots W & X

June 21 & 22, 1939



(1) (time)	(2) (min)	(3) (in)	(4) (in)	(5) (in/hr)	(6) Int. on Plot W Col. 5 x .67 .55	(7) Int. on Plot X Col. 5 x .67 .55
8:50						
9:00	10	.06	.06	.36	.44	.44
9:02	2	.10	.04	1.20	1.41	1.41
9:15	13	.22	.12	.55	.67	.67
9:45	30	.26	.04	.08	.09	.09
10:00	15	.29	.03	.12	.14	.14
10:10	10	.32	.03	.18	.21	.21
10:25	15	.34	.02	.08	.10	.10
10:40	15	.37	.03	.12	.14	.14
10:50	10	.41	.04	.24	.29	.29
11:30	40	.41	.00	.00	.00	.00
11:45	15	.43	.02	.08	.10	.10
11:50P	5	.45	.02	.24	.29	.29
3:18A						
3:20A	2	.52	.07	2.10	2.56	2.56
3:22	2	.55	.03	.90	1.10	1.10
					.67*	.67*

Precipitation on Watershed Plots W & X determined by Horton's method.

	Plot W	Plot X
Area (acres)	1.97	1.97
Preceding Rain (in.)	.09	.09
date began	June 21	June 21
duration (hours)	0 Hrs 47 Min.	0 Hrs 47 Min.
Temperature (max. & min.)	74 & 62	74 & 62
Soil (major type)	Marshall silt loam	Marshall silt loam
percent of area		
Slope, average (percent)	7.76	9.00
maximum		
Cover, type	Corn	Corn
height (ft.)	24 inches	24 inches
date last cultivated	June 12 cultivated	June 12 cultivated
Soil loss (tons per acre)	0.726	0.002
Remarks	Rotation (Corn, corn, corn, oats)	Rotation (Corn, corn, corn, oats)

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Plot by L.H.S. date 1/29/40 checked by L.H.S. date
Computations by L.H.S. date Fall '39 checked by J.H.D. date Fall '39

June 21 & 22, 1939
Clarinda, Iowa
Watershed Plots W & X

Sheet 2 of 3 Sheets

June 21 & 22, 1939

Rainfall and Runoff in inches. Rainfall rate in inches per hour.

8:40P 9:00P 10:00P June 21 11:00P 12:00AM

Rainfall Rate in in/hr (Col. 1 & 5 & Plum Creek Gage #2)

Accumulated Rainfall in inches (Col. 1 & 3 & Plum Creek Gage #2)

3:00A

4:00A

June 22

5:00A

Accumulated Runoff Plot Z = 0.013 inches

Accumulated Runoff Plot Y = 0.101 inches

9:00P

10:00P

June 21

11:00P

Watershed Plot Y

Watershed Plot Z

3:00A

4:00A

June 22

5:00A

Q = Discharge in cu. ft. per sec.

Watershed Plot Y

Watershed Plot Z

June 21 & 22, 1939
Clarinda, Iowa
Sheet 3 of 3 Sheets

(1) (time)	(2) (min)	(3) (in)	(4) (in)	(5) (in/hr)	(6) Int. Plot Y Col. 5 x .67 .53	(7) Int. Plot Z Col. 5 x .63 .53
8:15PM						
8:53	8	.02	.02	.15	.19	.18
9:00	7	.09	.07	.60	.76	.71
9:05	5	.18	.09	1.08	1.37	1.28
9:15	10	.25	.07	.42	.53	.50
9:35	20	.29	.04	.12	.15	.14
9:55	20	.31	.02	.06	.08	.07
10:15	20	.35	.04	.12	.15	.14
10:30	15	.37	.02	.08	.10	.10
10:45	15	.39	.02	.08	.10	.10
11:00	15	.43	.04	.16	.20	.19
11:35	35	.43	.00	.00	.00	.00
11:50	15	.45	.02	.08	.10	.10
3:18A	208	.45	.00	.00	.00	.00
3:23A	5	.53	.08	.96	1.22 .67*	1.13 .63*

*Precipitation on Watersheds Y & Z determined
by Horton's method.

	Plot Y	Plot Z
Area (acres).....	3.25	3.12
Preceding Rain (in.).....	.08	.08
date began.....	June 21	June 21
duration (hours).....	0 Hrs 45 Min	0 Hrs 45 Min.
Temperature (max. & min.).....	74 & 62	74 & 62
Soil (major type).....	Marshall silt loam	Marshall silt loam
percent of area.....		
Slope, average (percent).....	8.32	9.98
maximum.....		
Cover, type.....	Corn	Corn
height (ft.).....	24 inches	24 inches
date last cultivated.....	June 7 cultivated	June 8 cultivated
Soil loss (tons per acre).....	0.080	0.004
Remarks.....	Rotation (Corn, corn, oats, clover)	Rotation (Corn, corn, corn, oats)

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STORM NO. _____

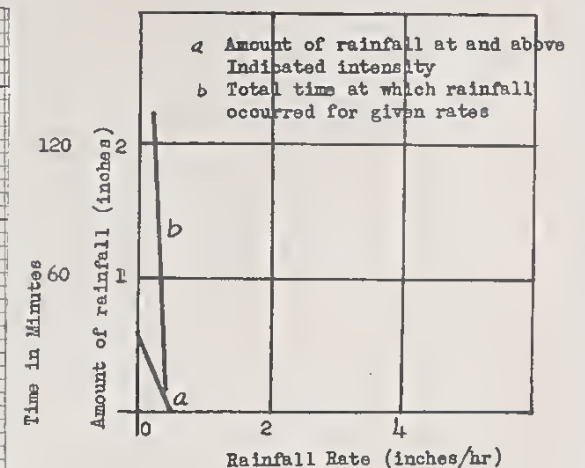
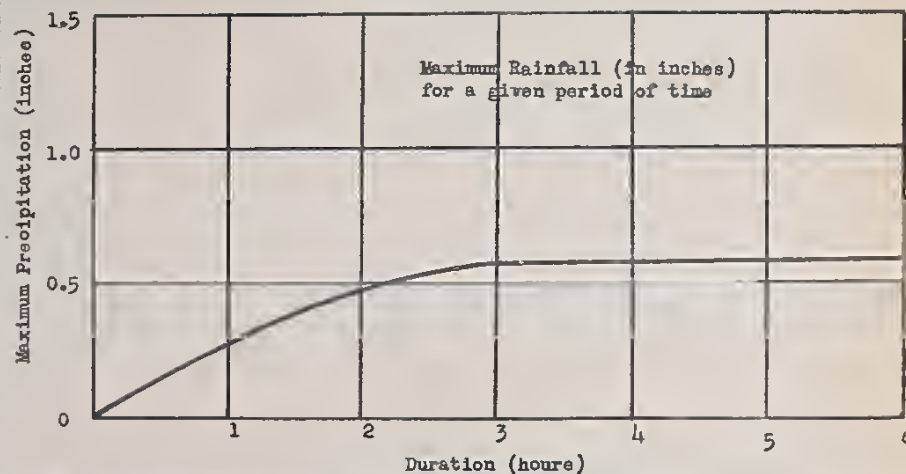
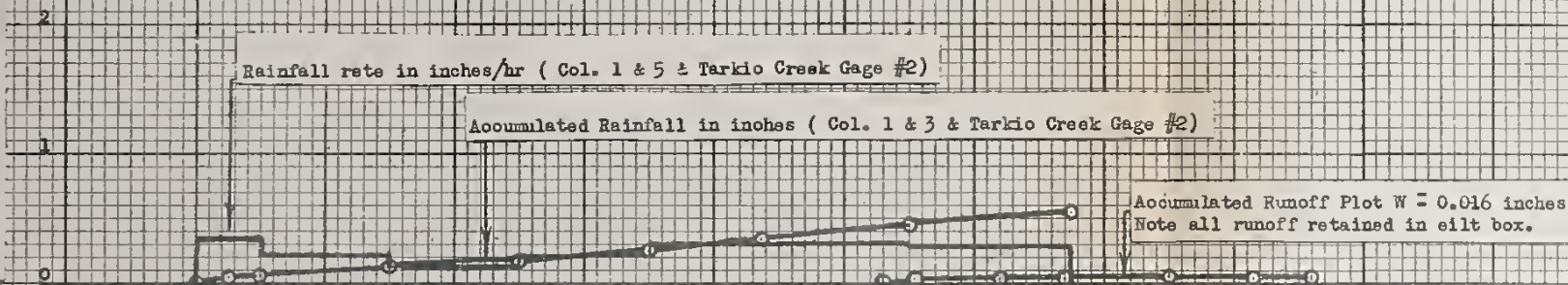
Plot by L.H.S. date 1/29/40 checked by L.H.S. date _____
Computations by L.H.S. date Fall 1939 checked by J.W.D. date Fall 1939

Watershed Plot W
June 25, 1939

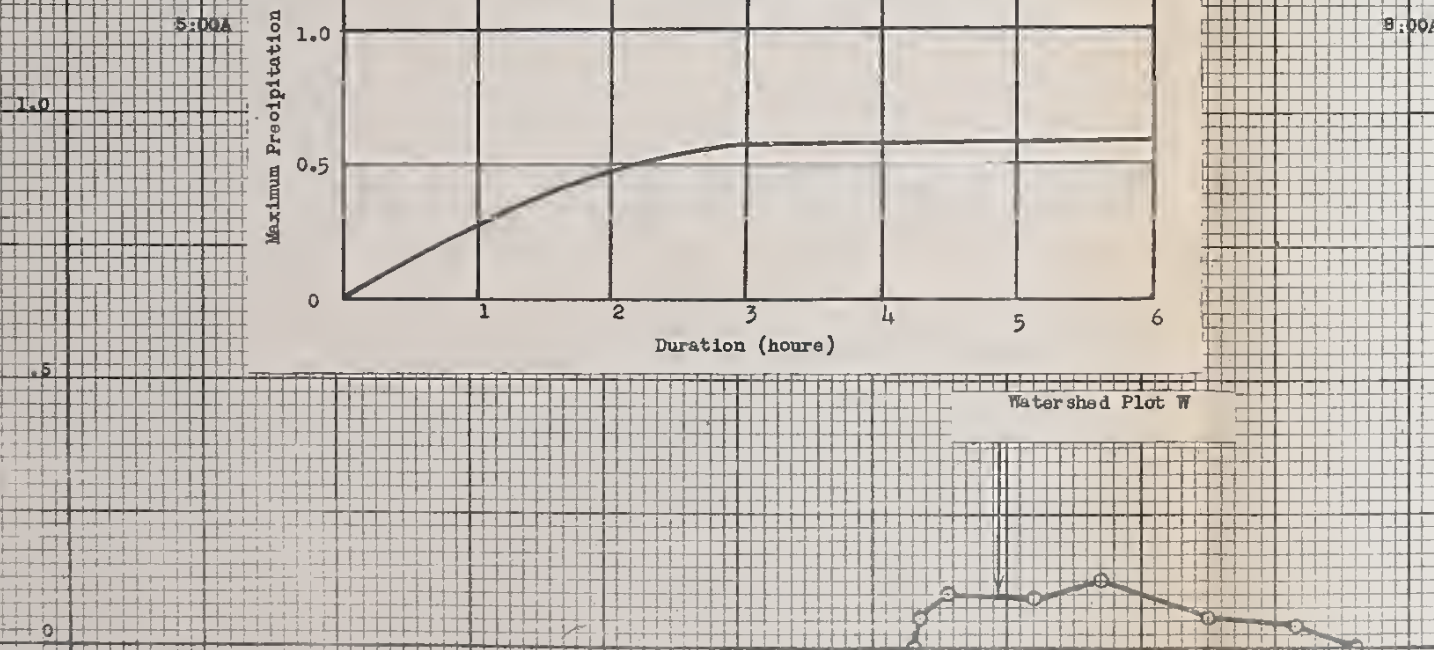
(1) (time)	(2) (min)	(3) (in)	(4) (in)	(5) (in/hr)	(6) Int. on Plot W Col. 5 x $\frac{.54}{.56}$
5:00AM					
5:05	5	.03	.03	.36	.35
5:10	5	.06	.03	.36	.35
5:20	20	.13	.07	.21	.20
5:30	20	.17	.04	.12	.12
5:40	20	.24	.07	.21	.20
5:50	20	.34	.10	.30	.29
6:00	20	.44	.10	.30	.29
7:15A	25	.56	.12	.29	.28
					.54*

*Precipitation on Watershed Plot W determined by
Borton's method.

Rainfall and
Runoff in inches
Rainfall rate in inches per hour



Q = Discharge in cu. ft. per sec.



Plot W	
Area (acres).....	1.97
Preceding Rain (in.).....	.10
date began.....	June 22
duration (hours).....	0 hrs. 4 min.
Temperature (max. & min.).....	79 and 65
Soil (major type).....	Marshall Silt Loam
percent of area.....	
Slope, average (percent).....	7.76
maximum.....	
Cover, type.....	Corn
height (ft.).....	28 inches
date last cultivated.....	June 12 cultivated
Soil loss (tons per acre).....	0.010
Remarks.....	Rotation (corn, corn, corn, oats)

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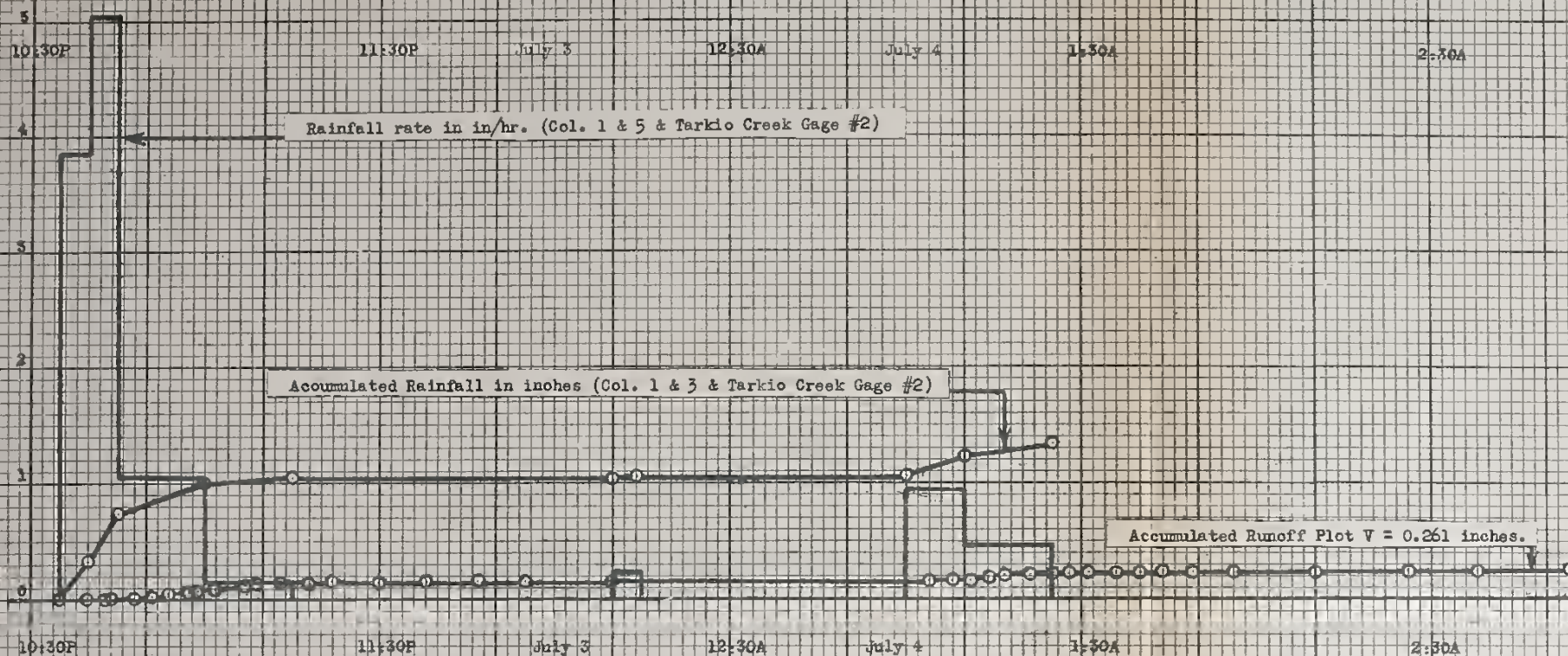
June 25, 1939
Clarinda, Iowa
Sheet 1 of 1 Sheet

STORM NO. _____

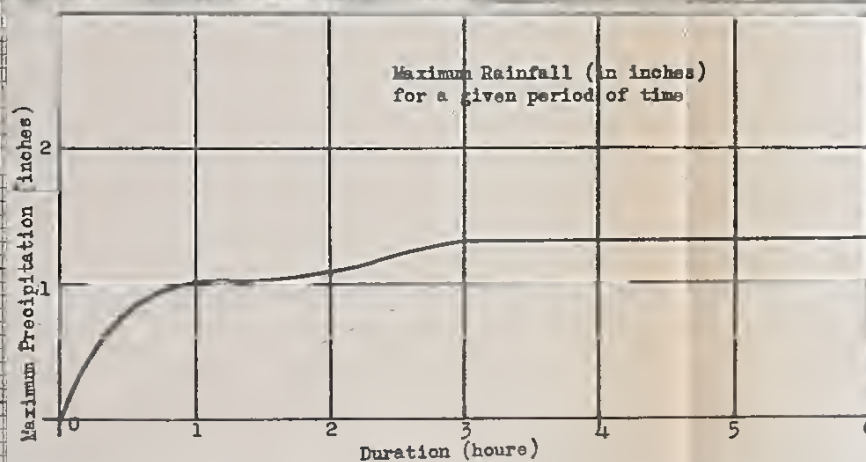
Plot by L.H.S. date 1/30/40 checked by L.H.S. date 2/9/40
Computations by L.H.S. date Fall/39 checked by J.W.D. date Fall/39

July 3 & 4, 1939

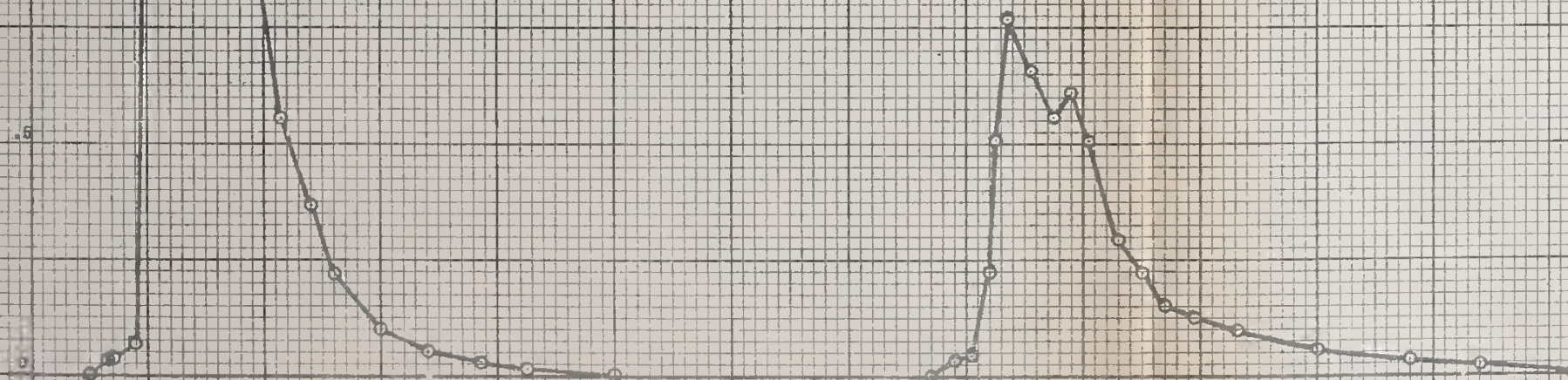
Rainfall and Runoff in inches. Rainfall Rate in inches per hour.



Watershed Plot V

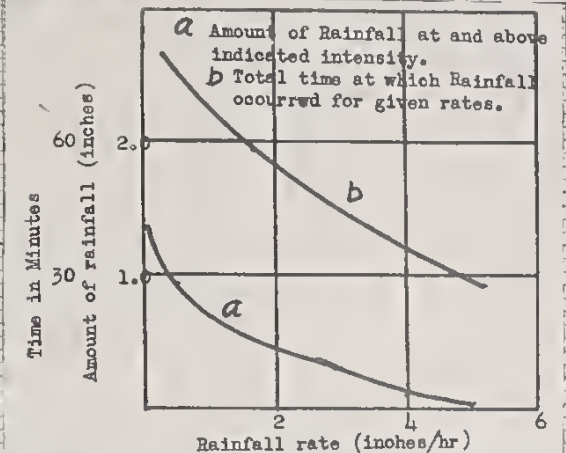


Q = Discharge in cu. ft. per sec.



(1) (time)	(2) (min)	(3) (in)	(4) (in)	(5) (in/hr)	(6) Int. on Plot V Col. 5 x 1.29 1.34
10:35PM					
10:40P	5	.32	.32	3.84	3.70
10:45	5	.74	.42	5.04	4.86
11:00	15	1.00	.26	1.04	1.00
11:15	15	1.04	.04	.16	.15
12:10A	55	1.04	.00	.00	.00
12:15	5	1.06	.02	.24	.23
1:00	45	1.06	.00	.00	.00
1:10	10	1.22	.16	.96	.92
1:25A	15	1.34	.12	.48	.46
					1.29

*Precipitation on Watershed Plot V determined by Horton's method.



Plot V	
Area (acres).....	3.25
Preceding Rain (in.).....	.27
date began.....	July 1
duration (hours).....	2 Hrs 5 min.
Temperature (max. & min.).....	88 & 64
Soil (major type).....	Marshall silt loam
percent of area.....	
Slope, average (percent).....	7.69
maximum.....	
Cover, type.....	Corn
height (ft.).....	51 inches
date last cultivated.....	June 30 cultivated
Soil loss (tons per acre).....	0.501
Remarks.....	Rotation (Corn, corn, oats, clover)

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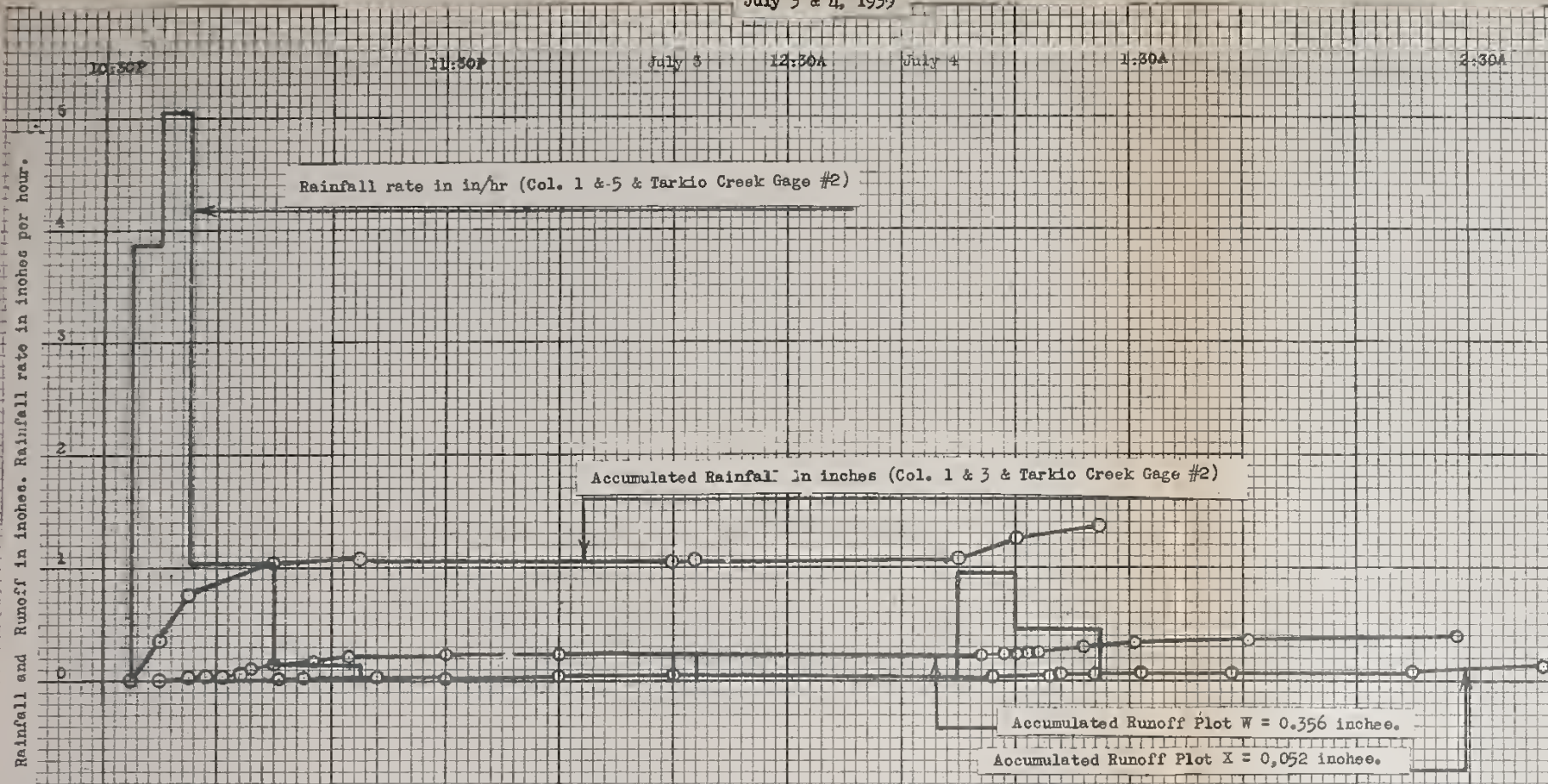
STORM NO.

Plot by L.H.S. date 1/30/40 checked by L.H.S. date

Computations by L.H.S. date Fall '39 checked by J.W.D. date Fall '39

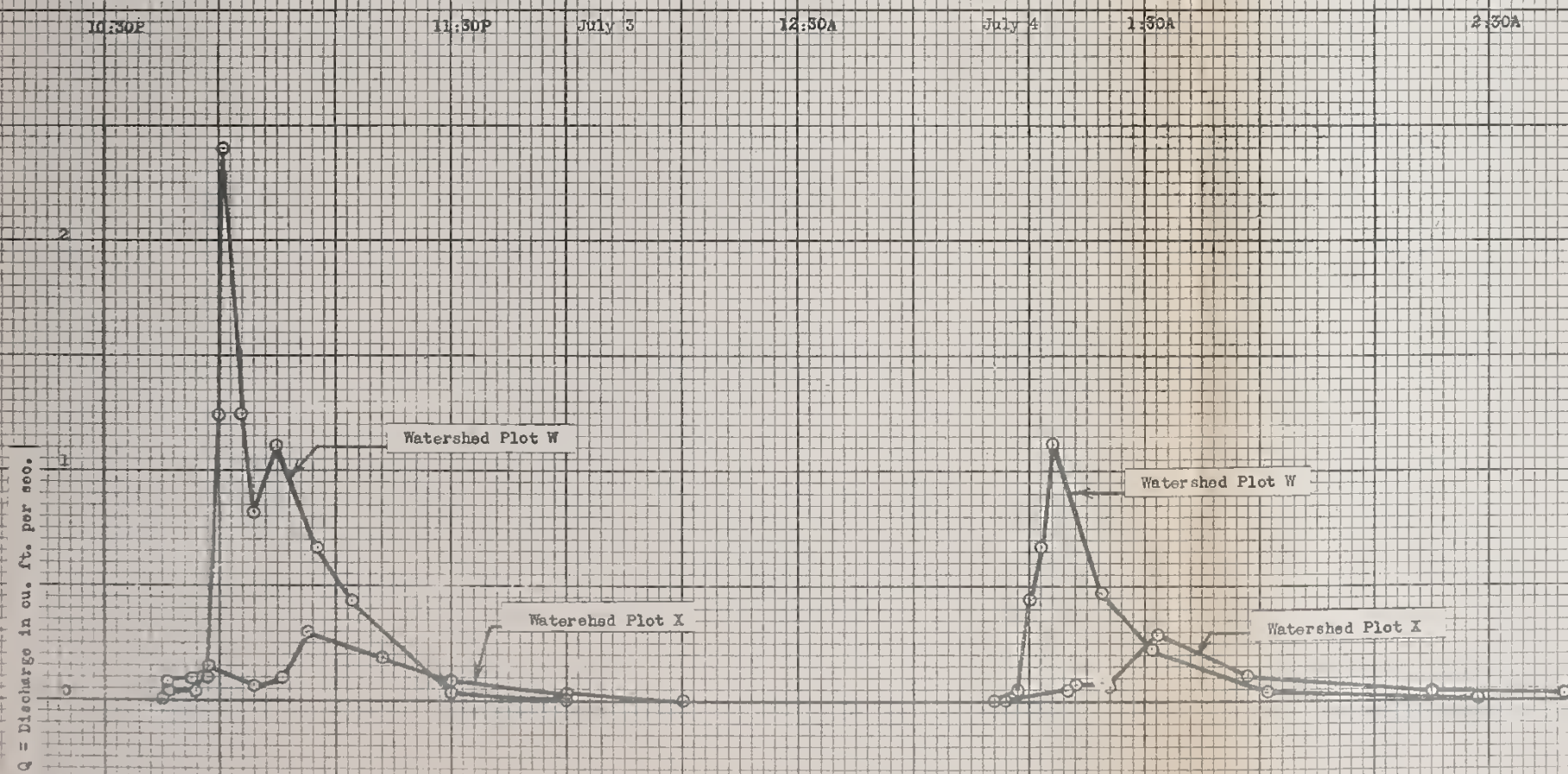
Sheet 1 of 3 Sheets

July 3 & 4, 1939
Clarinda, Iowa



(1) (time)	(2) (min)	(3) (in)	(4) (in)	(5) (in/hr)	(6) Int. Plot W Col. 5 x 1.23 1.34	(7) Int. Plot X Col. 5 x 1.20 1.34
10:35PM						
10:40	5	.32	.32	3.84	3.52	3.44
10:45	5	.74	.42	5.04	4.62	4.52
11:00	15	1.00	.26	1.04	.96	.90
11:15	15	1.04	.04	.16	.15	.14
12:10A	55	1.04	.00	.00	.00	.00
12:15	5	1.06	.02	.24	.22	.22
1:00	45	1.06	.00	.00	.00	.00
1:10	10	1.22	.16	.96	.88	.86
1:25	15	1.34	.12	.48	.44	.43
					1.23*	1.20*

*Precipitation on Watershed Plots W & X determined by Horton's method.



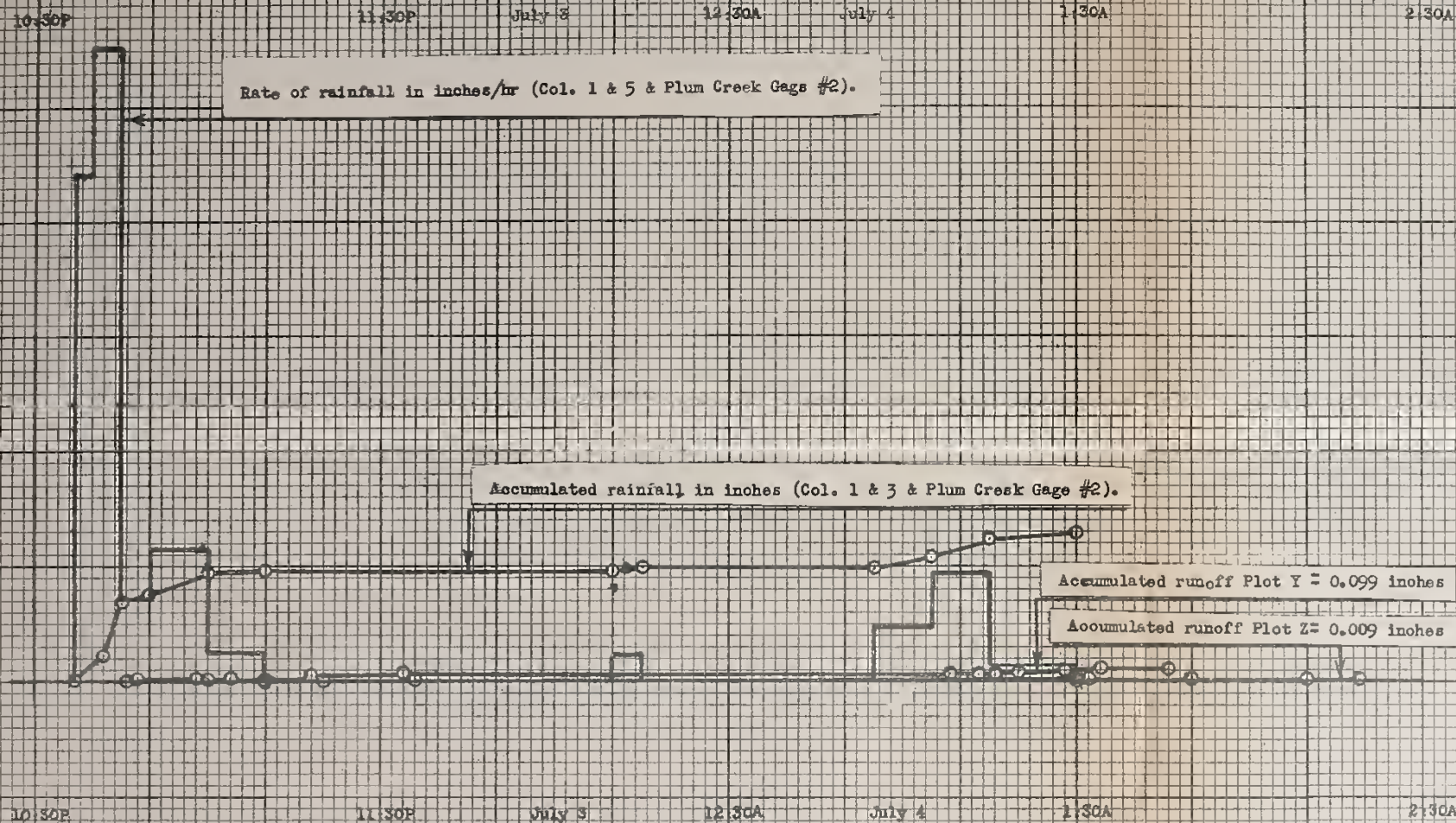
	Plot W	Plot X
Area (acres).....	1.97	1.97
Preceding Rain (in.).....	.27	.27
date began.....	July 1	July 1
duration (hours).....	2 Hrs 5 min.	2 Hrs 5 min.
Temperature (max. & min.).....	88 & 64	88 & 64
Soil (major type).....	Marshall silt loam	Marshall silt loam
percent of area.....		
Slope, average (percent).....	7.76	9.00
maximum.....		
Cover, type.....	Corn	Corn
height (ft.).....	50 inches	42 inches
date last cultivated.....	June 30 cultivated	June 30 cultivated
Soil loss (tons per acre).....	2.604	0.025
Remarks.....	Rotation (Corn, corn, corn, oats)	Rotation (Corn, corn, corn, oats)

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STORM NO.
Plot by L.H.S. date 1/31/40 checked by L.H.S. date
Computations by L.V.S. date Fall '39 checked by J.W.D. date Fall '39

July 3 & 4, 1939

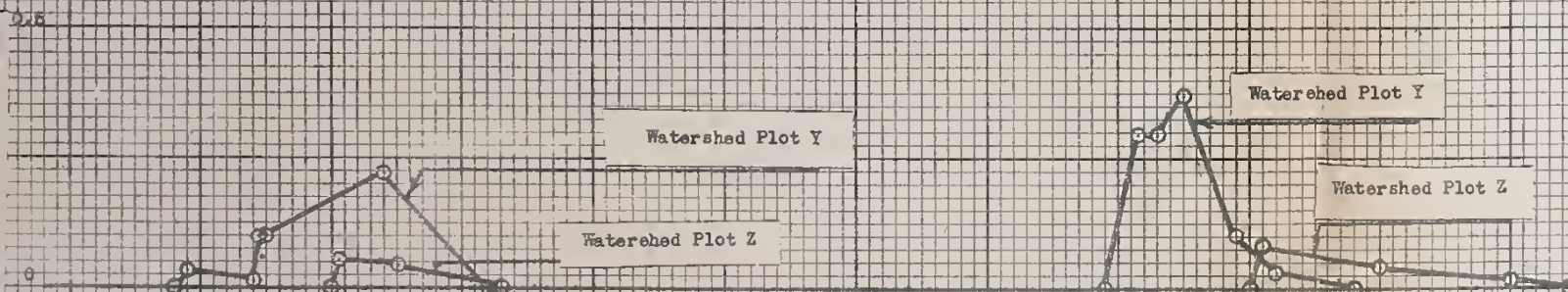
Rainfall and Runoff in inches. Rainfall rate in inches per hour.



(1) (time)	(2) (min)	(3) (in)	(4) (in)	(5) (in/hr)	(6) Int. on Plot Y Col. 5 x $\frac{1.21}{1.27}$	(7) Int. on Plot Z Col. 5 x $\frac{1.16}{1.27}$
10:37PM						
10:40	3	.22	.22	4.40	4.19	4.02
10:45	5	.68	.46	5.52	5.26	5.04
10:50	5	.74	.06	.72	.68	.66
11:00	10	.93	.19	1.14	1.09	1.04
11:10P	10	.97	.04	.24	.23	.22
12:10A	60	.97	.00	.00	.00	.00
12:15	5	.99	.02	.24	.23	.22
12:55	40	.99	.00	.00	.00	.00
1:05	10	1.07	.08	.48	.46	.44
1:15	10	1.23	.16	.96	.91	.88
1:30A	15	1.27	.04	.16	.15	.15
					1.21*	1.16*

*Precipitation on Watersheds Y & Z determined by
Borton's method.

Q = Discharge in cu. ft. per sec.



	Plot Y	Plot Z
Area (acres)	3.25	3.12
Preceding Rain (in.)	.25	.25
date began	July 1	July 1
duration (hours)	2 Hrs 45 Min.	2 Hrs 45 Min.
Temperature (max. & min.)	88 & 64	88 & 64
Soil (major type)	Marshall silt loam	Marshall silt loam
percent of area		
Slope, average (percent)	8.32	9.98
maximum		
Cover, type	Corn	Corn
height (ft.)	60 inches	60 inches
date last cultivated	Cultivated July 1	Cultivated July 1
Soil loss (tons per acre)	0.142	0.028
Remarks	Rotation (Corn, corn, oats, clover)	Rotation (Corn, corn, oats, clover)

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July 3 & 4, 1939
Clarinda, Iowa
Sheet 3 of 3 Sheets

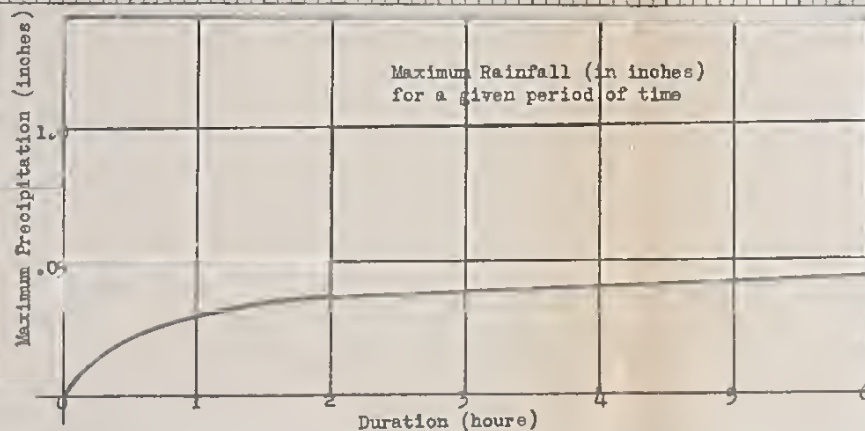
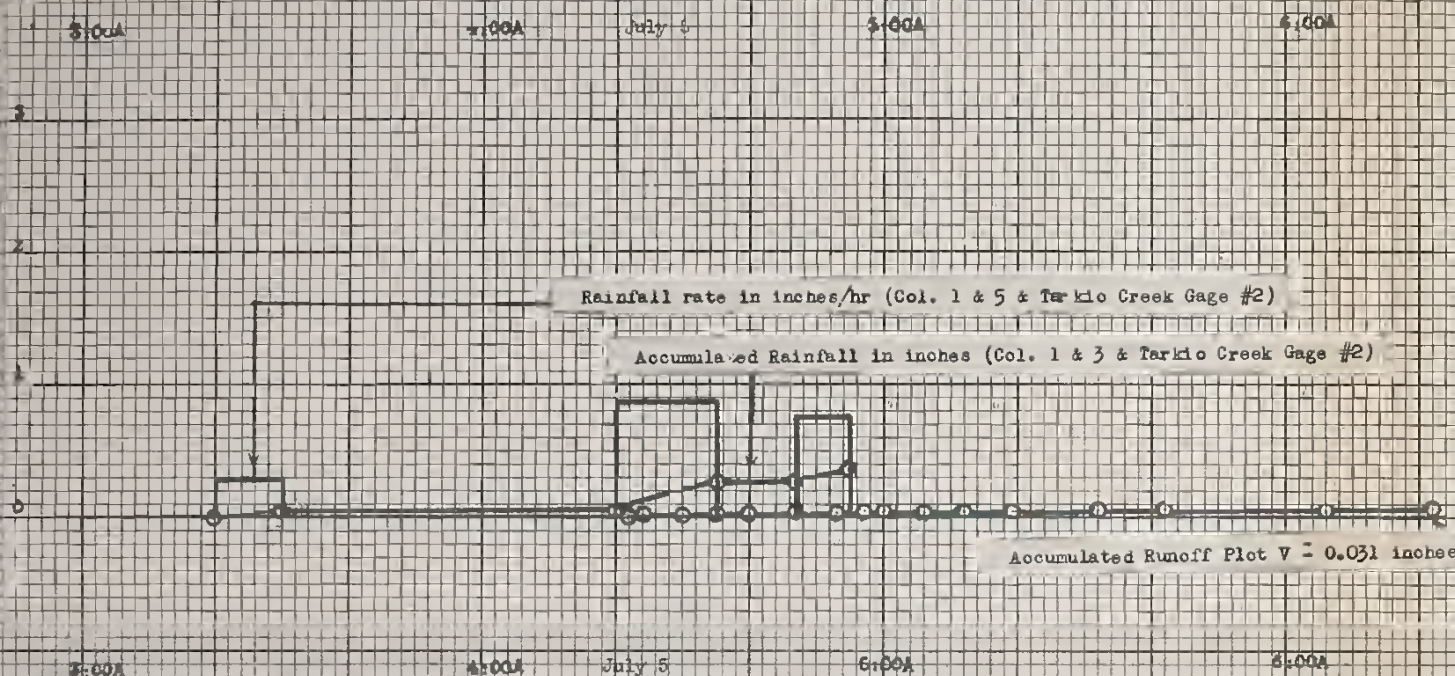
STORM NO. _____

Plot by L.H.S. date 1/31/40 checked by L.H.S. date _____
Computations by L.H.S. date Fall '39 checked by J.W.D. date Fall '39

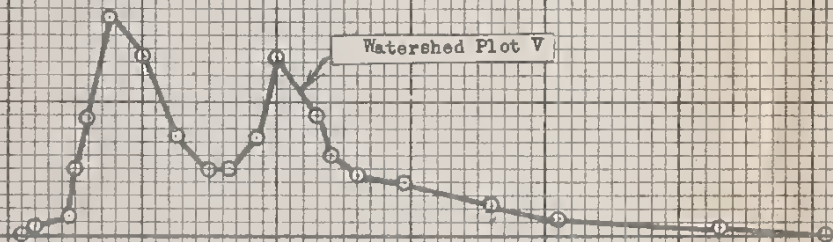
Watershed Plot V

July 5, 1939

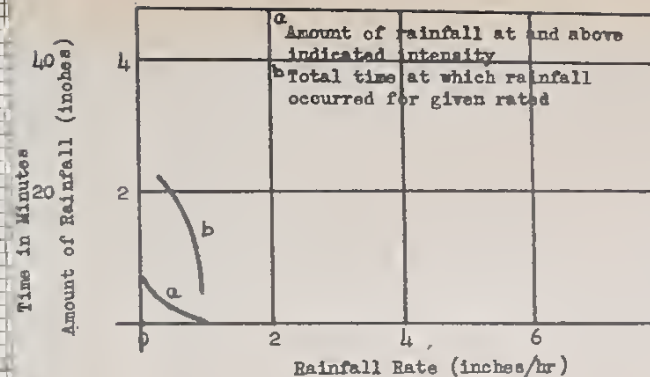
Rainfall and Runoff in inches. Rainfall rate in inches per hour.



Q = Discharge in cu. ft. per sec.



July 5, 1939
Starinda, Iowa
Sheet 1 of 3 Sheets



(1) (time)	(2) (min)	(3) (in)	(4) (in)	(5) (in/hr)	(6) Int. on Plot V Col. 5 x .36 .37
3:20AM					
3:30	10	.05	.05	.30	.29
4:20	50	.05	.00	.00	.00
4:35	15	.27	.22	.88	.86
4:47	12	.27	.00	.00	.00
4:55A	8	.37	.10	.75	.73
					.36*

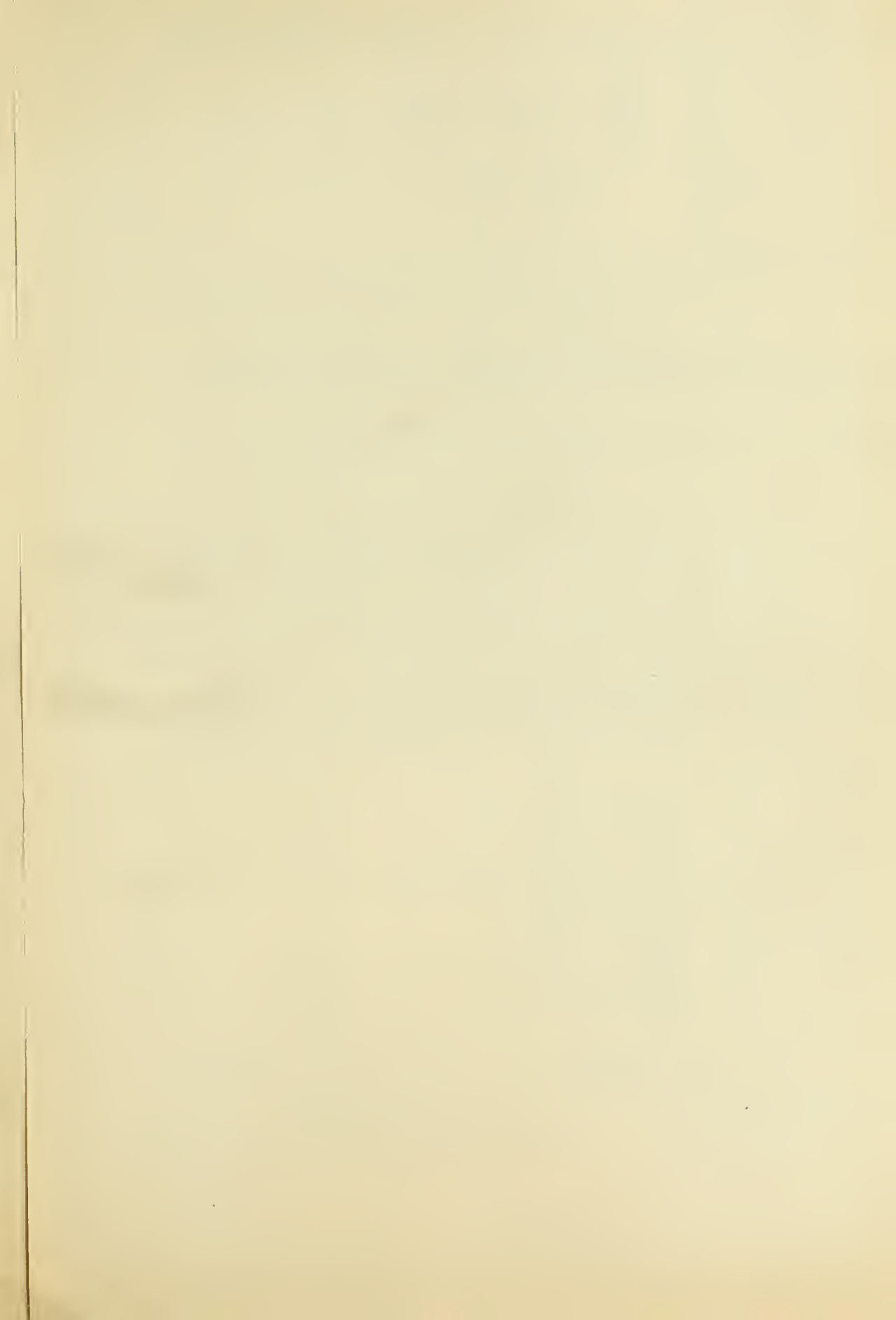
*Precipitation on Watershed Plot V determined by Horton's method.

Plot V	
Area (acres)	3.25
Preceding Rain (in.)	.30
date began	July 4
duration (hours)	1 Hr 15 min.
Temperature (max. & min.)	92 & 66
Soil (major type)	Marshall silt loam
percent of area	
Slope, average (percent)	7.69
maximum	
Cover, type	Corn
height (ft.)	51 inches
date last cultivated	June 30 cultivated
Soil loss (tons per acre)	0.056
Remarks	Rotation (Corn, corn, oats, clover)

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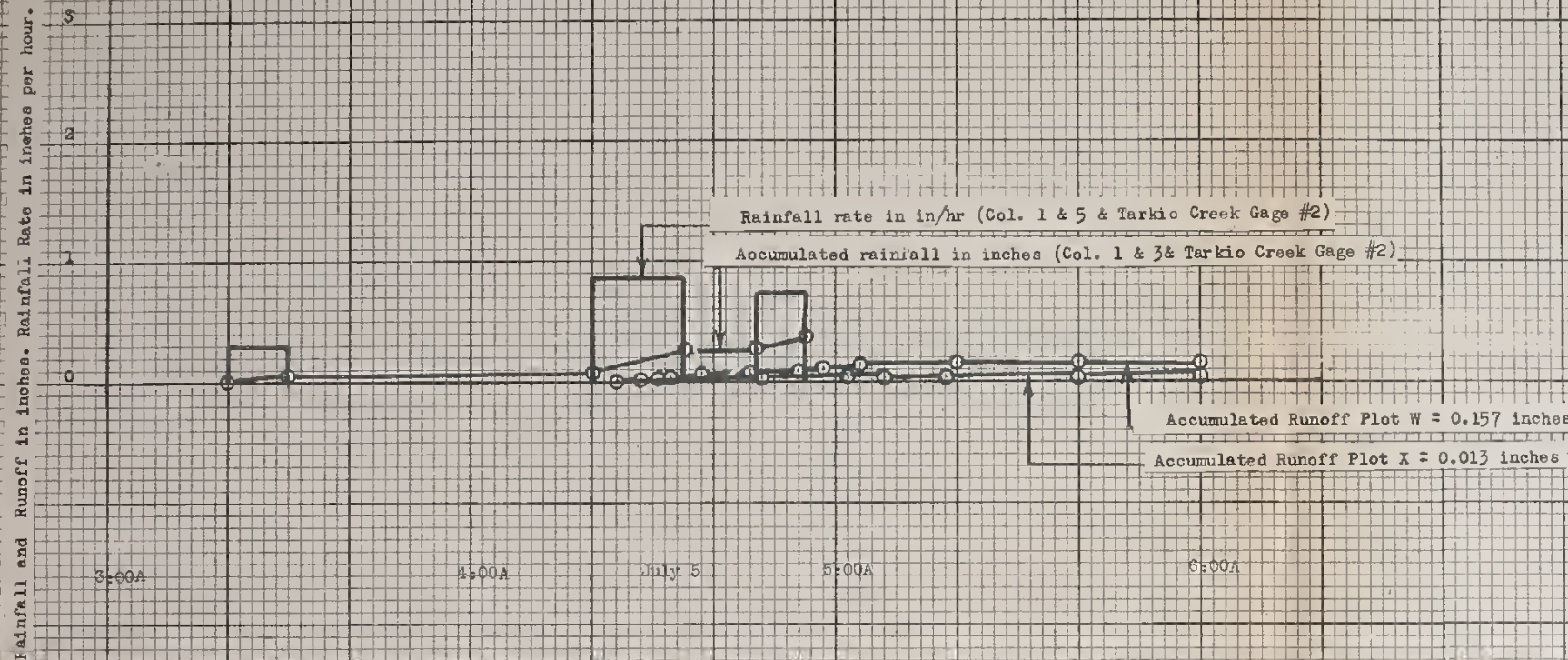
STORM NO. _____

Plot by L.H.S. date 1/31/40 checked by L.H.S. date _____
Computations by L.H.S. date Fall '39 checked by J.W.D. date Fall '39

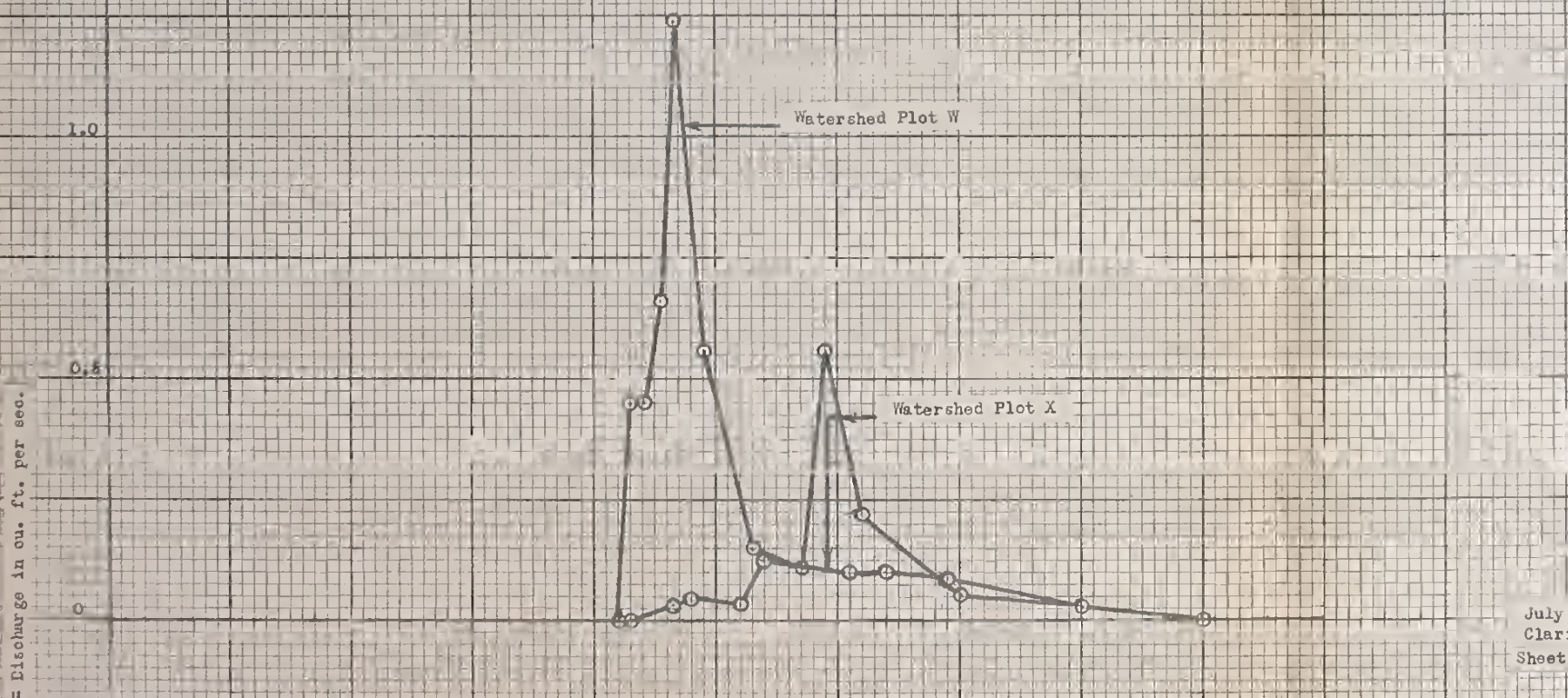


July 5, 1939

Rainfall and Runoff in inches. Rainfall Rate in inches per hour.



Discharge in cu. ft. per sec.



(1) (time)	(2) (min)	(3) (in)	(4) (in)	(5) (in/hr)	(6) Int. on Plot W Col. 5 x .38	(7) Int. Plot X Col. 5 x .39
3:20AM						
3:30	10	.05	.05	.30	.31	.32
4:20	50	.05	.00	.00	.00	.00
4:35	15	.27	.22	.88	.90	.93
4:47	12	.27	.00	.00	.00	.00
4:55A	8	.37	.10	.75	.77	.79
					.38*	.39*

*Precipitation on Watershed W & X determined by Horton's method.

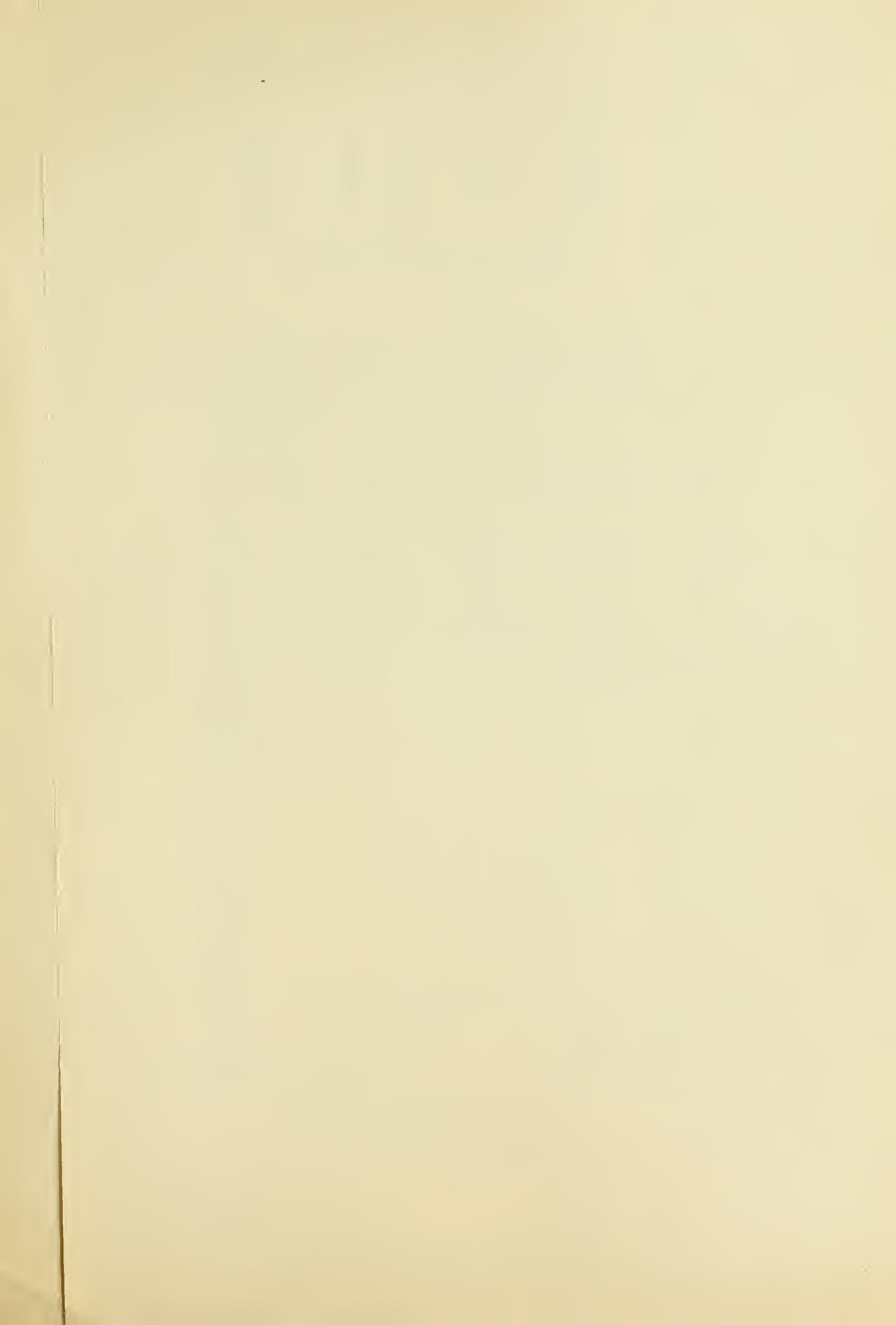
	Plot W	Plot X
Area (acres)	1.97	1.97
Preceding Rain (in.)	.30	.30
date began	July 4	July 4
duration (hours)	1 Hr 15 min.	1 Hr 15 min.
Temperature (max. & min.)	92 & 66	92 & 66
Soil (major type)	Marshall silt loam	Marshall silt loam
percent of area		
Slope, average (percent)	7.76	9.00
maximum		
Cover, type	Corn	Corn
height (ft.)	50 inches	42 inches
date last cultivated	June 30 cultivated	June 30 cultivated
Soil loss (tons per acre)	0.724	0.010
Remarks	Rotation (Corn, corn, corn, oats)	Rotation (Corn, corn, corn, oats)

July 5, 1939
Clarinda, Iowa
Sheet 2 of 3 Sheets

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STORM NO. _____

Plot by L.F.S. date 1/31/40 checked by L.F.S. date _____
Computations by L.F.S. date Fall '39 checked by L.F.S. date Fall '39



Watershed Plot Y

July 5, 1939

Rainfall and Runoff in inches. Rainfall rate in inches per hour.

3:00A 4:00A July 5, 1939 5:00A 6:00A

Rainfall Rate in in/hr (Col. 1 & 5 & Plum Creek Gage #2)

Accumulated Rainfall in inches (Col. 1 & 3 & Plum Creek Gage #2)

Accumulated Runoff Plot Y = 0.019 inches.

3:00A 4:00A July 5, 1939 5:00A 6:00A

(1) (time)	(2) (min)	(3) (in)	(4) (in)	(5) (in/hr)	(6) Int. on Plot Y Col. 5 x $\frac{.39}{.34}$
3:20AM					
3:25	5	.04	.04	.48	.55
4:10	15	.04	.00	.00	.00
4:15	5	.06	.02	.24	.28
4:25	10	.23	.17	1.02	1.17
4:35	10	.25	.02	.12	.14
4:45	10	.25	.00	.00	.00
4:55	10	.34	.09	.54	.62
					.39*

*Precipitation on Watershed Plot Y determined by Horton's method.

Plot Y
 Area (acres) 3.25
 Preceding Rain (in.) .30
 date began July 4
 duration (hours) 1 Hr 20 min.
 Temperature (max. & min.) 92 & 66
 Soil (major type) Marshall silt loam
 percent of area
 Slope, average (percent) 8.32
 maximum
 Cover, type Corn
 height (ft.) 60 inches
 date last cultivated Cultivated July 1
 Soil loss (tons per acre) 0.028
 Remarks Rotation (Corn, corn, oats, clover)

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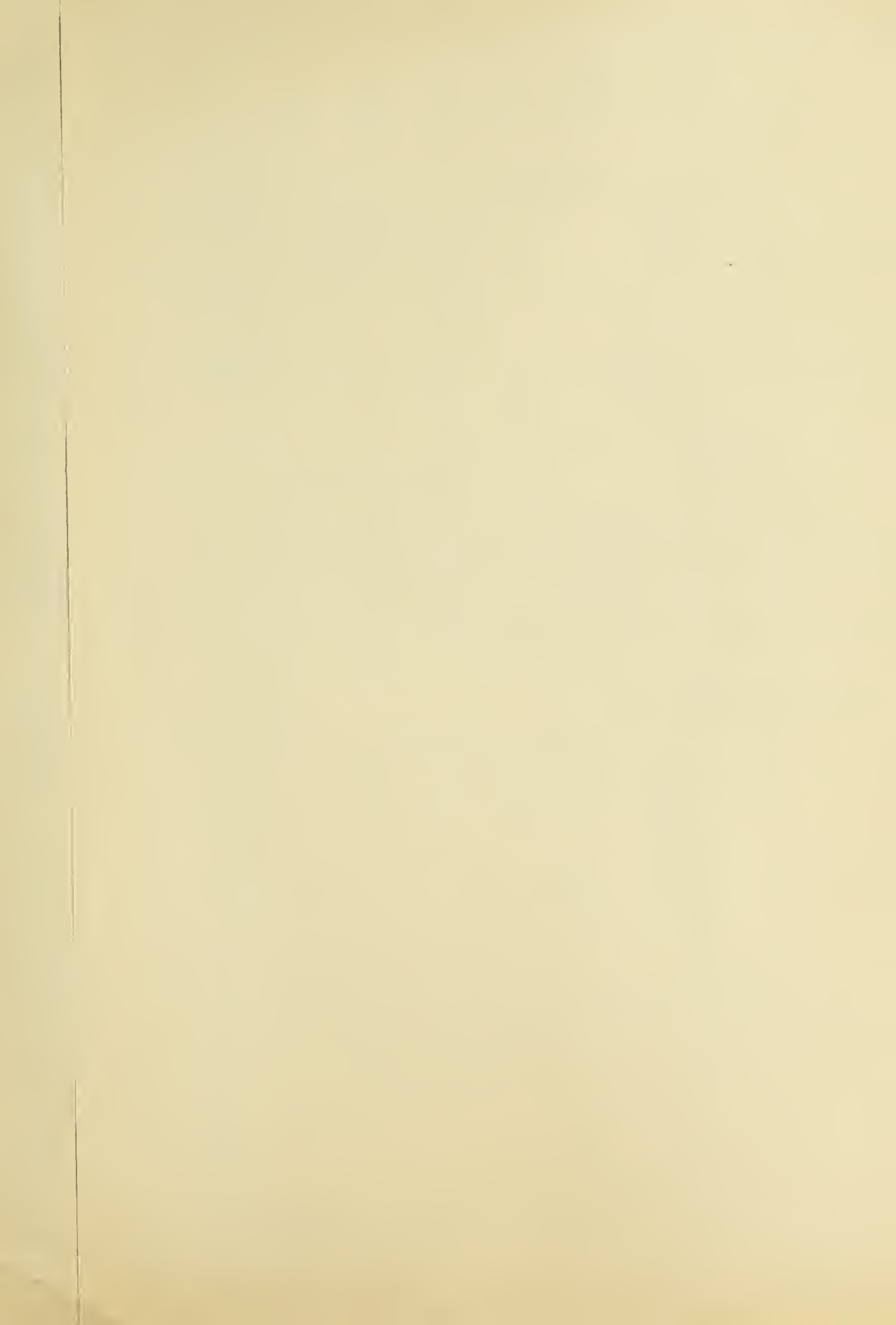
STORM No. _____

Plot by L.H.S. date 1/31/40 checked by L.H.S. date
 Computations by L.H.S. date Fall '39 checked by J.W.D. date Fall '39

July 5, 1939
 Clarinda, Iowa
 Sheet 3 of 3 Sheets

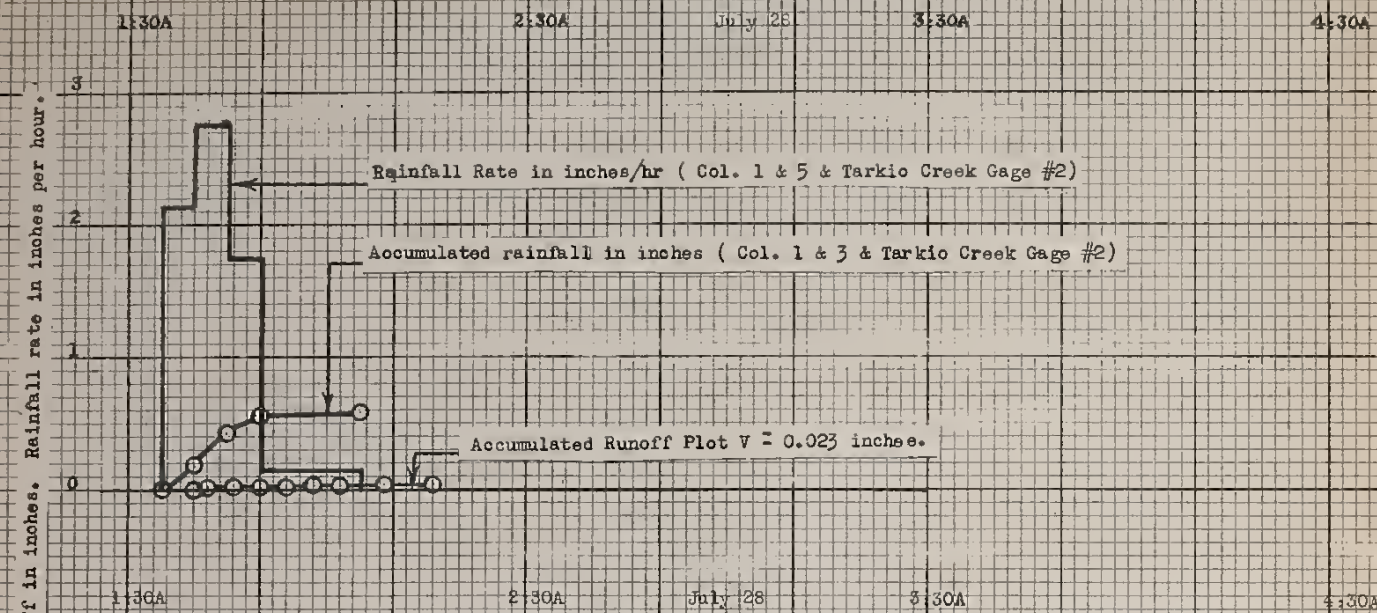
Q = Discharge in cu. ft. per sec.

Watershed Plot Y



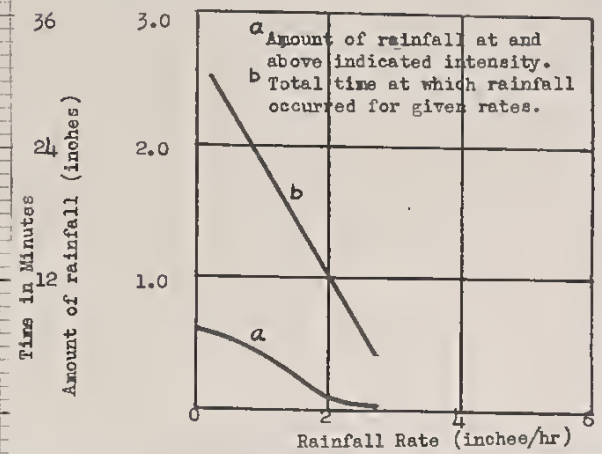
July 28, 1939

Rainfall and Runoff in inches. Rainfall rate in inches per hour.

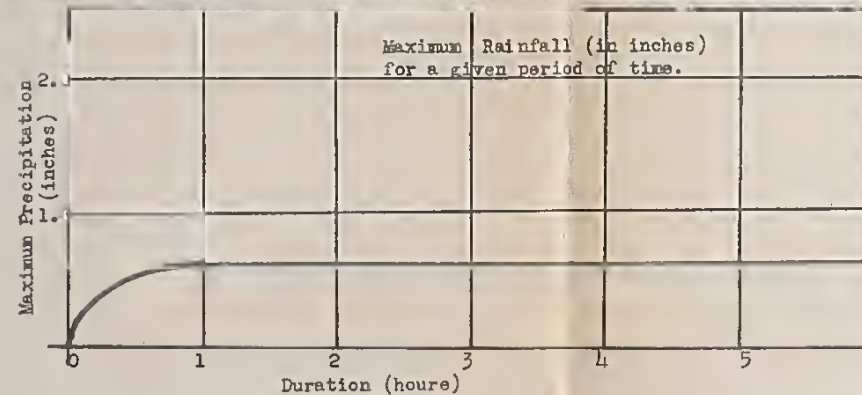
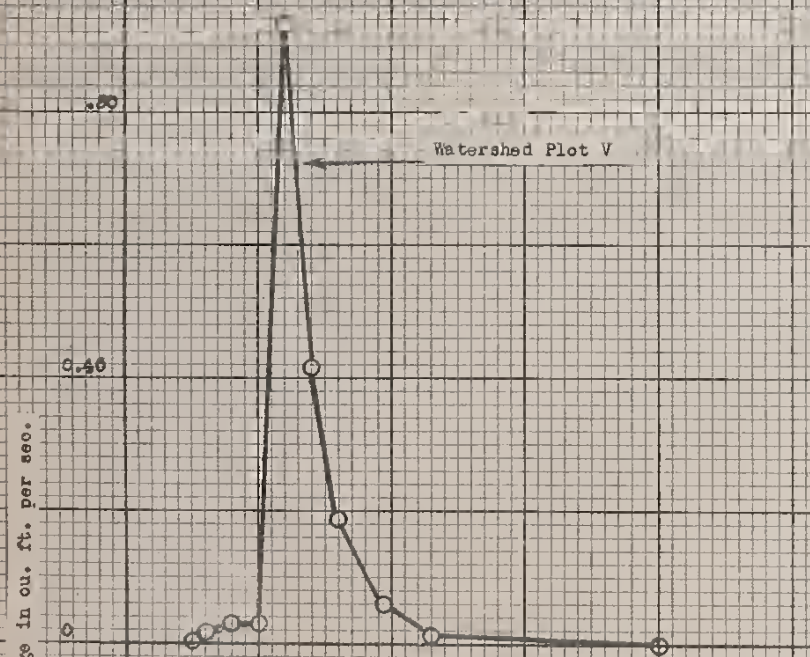


(1) (time)	(2) (min)	(3) (in)	(4) (in)	(5) (in/hr)	(6) Int. on Plot V Col. 5 x $\frac{.61}{.59}$
1:35A					
1:40	5	.18	.18	2.16	2.23
1:45	5	.41	.23	2.76	2.85
1:50	5	.55	.11	1.68	1.74
2:05A	15	.59	.04	.16	.17
					<u>.61*</u>

*Precipitation on Watershed Plot V determined by Horton's method.



Q = Discharge in cu. ft. per sec.



Plot V

Area (acres) 3.25

Preceding Rain (in.) .85

date began July 25

duration (hours) 1 Hr 10 Min.

Temperature (max. & min.) 87 & 66

Soil (major type) Marshall silt loam

percent of area

Slope, average (percent) 7.69

maximum

Cover, type Corn

height (ft.) 96 inches

date last cultivated June 30 cultivated

Soil loss (tons per acre) 0.014

Remarks Rotation (Corn, corn, oats, clover)

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July 28, 1939
Clarinda, Iowa
Sheet 1 of 2 Sheets

STORM No. _____

Plot by L.F.S. date 1/11/40 checked by L.F.S. date _____

Computations by L.F.S. date Fall 1939 checked by J.D. date Fall 1939

